STIC-Biot ch/Ch mLib

62750

From: Steadman, David (AU1652)
Sent: Wednesday, March 20, 2002 6:35 AM
T : STIC-Biotech/ChemLib
Subject: 09/806,413 sequence search

NAME: David Steadman
AU: 1652
Date:03/20/02
Office: 10D-04
Mailbox: 10C-01 M3
Case Serial #: 09/806,413

Please search the following sequences in commercial databases:

1) SEQ ID NO:8 (polypeptide sequence) against polypeptide databases.

2) OLIGO search of SEQ ID NO:8 (polypeptide sequence) against polypeptide databases.

Please save search results to diskette.

Thank you very much,
David J. Steadman
308-3934
CM1, 10D-04

Point of Contact:
Barb O'Bryen
Technical Information Specialist
STIC CM1 6A05 308-4291

	TYPE OF SEARCH:	VENDOR/COST(where applic.)
Searcher: BOB	NA Sequences:	STN:
Phone:	AA Sequences:	DIALOG:
Location:	Structures:	Questel/Orbit:
Date Picked Up:	Bibliographic:	DRLink:
Date Completed: 3-21-02	Litigation:	Lexis/Nexis:
Searcher Prep/Review:	Full text:	Sequence Sys.:
Clerical:	Patent Family:	WWW/Internet:
Online time:	Other:	Other (specify):

09/806,413 Search Strategy/Results

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS
RN 9001-22-3 REGISTRY
CN Glucosidase, .beta.- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN .beta.-D-Glucosidase
CN .beta.-D-Glucoside glucohydrolase
CN .beta.-Glucosidase
CN .beta.-Glucoside hydrolase
CN .beta.-Primeverosidase
CN 4-Methylumbelliferyl-.beta.-D-glucopyranoside:.beta.-glucosidase
CN Arbutinase
CN Aryl .beta.-glucosidase
CN Cardenolide 16'-O-glucohydrolase
CN Cellobiase
CN E.C. 3.2.1.21
CN Elaterase
CN Emulsin
CN Esculinase
CN Gentiobiase
CN Hydroxamic acid glucoside .beta.-D-glucosidase
CN Indoxyl .beta.-D-glucosidase
CN Novozym 188
CN Novozyme 188
CN p-Nitrophenyl .beta.-glucosidase
CN **Primeverosidase**
CN Vicianase
DR 9001-44-9, 9013-43-8
MF Unspecified
CI COM, MAN
LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MSDS-OHS, NAPRALERT, PIRA, PROMT, TOXCENTER, USPATFULL
Other Sources: EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

09/806,413 Search Strategy/Results

STED DATA FROM 24 ANSWERS - CONTINUE? Y/(N):y

L2 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:30839 CAPLUS
TITLE: Substrate specificity of ??-**primeverosidase**, a key enzyme in aroma formation during oolong tea and black tea manufacturing
AUTHOR(S): Ma, Seung-Jin; Mizutani, Masaharu; Hiratake, Jun; Hayashi, Kentaro; Yagi, Kensuke; Watanabe, Naoharu; Sakata, Kanzo
CORPORATE SOURCE: Institute for Chemical Research, Kyoto University, Kyoto, 611-0011, Japan
SOURCE: Bioscience, Biotechnology, and Biochemistry (2001), 65(12), 2719-2729
CODEN: BBBIEJ; ISSN: 0916-8451
PUBLISHER: Japan Society for Bioscience, Biotechnology, and Agrochemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We synthesized nine kinds of diglycosides and a monoglycoside of 2-phenylethanol to investigate the substrate specificity of the purified -**primeverosidase** from fresh leaves of a tea cultivar (Camellia sinensis var. sinensis cv. Yabukita) in comparison with the apparent substrate specificity of the crude enzyme ext. from tea leaves. The crude enzyme ext. mainly showed -**primeverosidase** activity, although monoglycosidases activity was present to some extent. The purified -**primeverosidase** showed very narrow substrate specificity with respect to the glycon moiety, and esp. prominent specificity for the -primeverosyl (6-O--D-xylopyranosyl--D-glucopyranosyl) moiety. The enzymes hydrolyzed naturally occurring diglycosides such as -primeveroside, -vicianoside, -acuminoside, -gentiobioside and 6-O--L-arabinofuranosyl--D-glucopyranoside, but were unable to hydrolyze synthetic unnatural diglycosides. The purified enzyme was inactive toward 2-phenylethyl -D-glucopyranoside. The enzyme hydrolyzed each of the diglycosides into the corresponding disaccharide and 2-phenylethanol. These results indicate the -**primeverosidase**, a diglycosidase, to be a key enzyme involved in aroma formation during the tea manufg. process.
REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:917334 CAPLUS
DOCUMENT NUMBER: 136:182855
TITLE: Specificity of glycosidases from tea leaves toward glycidic tea aroma precursors
AUTHOR(S): Kobayashi, Akio; Kubota, Kikue; Wang, Dongmei; Yoshimura, Takako
CORPORATE SOURCE: Laboratory of Food Chemistry, Department of Nutrition and Food Sciences, Ochanomizu University, Tokyo, 112-8610, Japan
SOURCE: ACS Symposium Series (2001), 794(Aroma Active Compounds in Foods), 167-175
CODEN: ACSMC8; ISSN: 0097-6156
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A glycosidase mixt. was sepd. and purified from fresh tea leaves. Its activity was detd. through hydrolysis of p-nitrophenyl glucoside. Model mixts. with the same molar concns. of glucosides and primeverosides (contg. typical tea aroma compds. as the aglycons) were enzymically hydrolyzed. The amts. of liberated volatile aglycons were quant. measured at regular time intervals. Primeverosides were hydrolyzed more rapidly than the glucosides. Different yields of individual glycosides were obsd. after 1 or 2 h of incubation for the glucosides and after 15-60 min for the primeverosides, thus demonstrating the importance of **primeverosidase** in forming black tea aroma. However, glycosidase activity decreased throughout the black tea manufg. process. The highest prodn. of aroma compds. during black tea processing was due to interaction between the glycosides and the glycosidases.
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:769132 CAPLUS
DOCUMENT NUMBER: 135:287588
TITLE: Crystallization of p-nitrophenyl-.beta.-primeveroside
INVENTOR(S): Ogawa, Koichi; Takada, Masayasu; Sakata, Kanzo; Usui,

Taichi; Okada, Masanori
PATENT ASSIGNEE(S): Nihon Shokuhin Kako Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001292793	A2	20011023	JP 2000-111815	20000413

AB The p-nitrophenyl-.beta.-primeveroside (I), an useful substrate for **primeverosidase**, is purified from enzymic reaction soln. of pectinase, xylose donor, and p-nitrophenyl-.beta.-glucoside by concn. and crystn. and. I is useful for enzymic detn. of plant flavor biosynthesis. The method is low in cost and easy, and gives high yield.

L2 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:554447 CAPLUS
DOCUMENT NUMBER: 136:4844
TITLE: Qualitative and quantitative analyses of glycosides as aroma precursors during the tea manufacturing process
AUTHOR(S): Kobayashi, A.; Kubota, K.; Wang, D.
CORPORATE SOURCE: Laboratory of Food Chemistry, Ochanomizu University, Tokyo, 112-8610, Japan
SOURCE: Frontiers of Flavour Science, [Proceedings of the Weurman Flavour Research Symposium], 9th, Freising, Germany, June 22-25, 1999 (2000), Meeting Date 1999, 452-456. Editor(s): Schieberle, Peter; Engel, Karl-Heinz. Deutsche Forschungsanstalt fuer Lebensmittelchemie: Garching, Germany.
CODEN: 69BOX5
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Glycosides are considered to be aroma precursors of black tea. The glycoside fractions extd. at different stages during black tea manuf. were trifluoroacetylated and analyzed by GC and GC-MS. Various glucosides and disaccharides were identified by comparison with authentic samples. Quant. anal. of the glycosides during the manufg. process shows that the primeverosides were greatly decreased, while substantial amts. of the glucosides remain at the final stage of the process. These results are in agreement with the previously described role of **primeverosidase** as the main enzyme involved in the formation of the black tea aroma. They confirm that the main aroma components, esp. several monoterpene alcs., are formed from the corresponding glycosides in the course of the process of black tea manufg.
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:168509 CAPLUS
DOCUMENT NUMBER: 134:352409
TITLE: Analysis of Glycosidically Bound Aroma Precursors in Tea Leaves. 2. Changes in Glycoside Contents and Glycosidase Activities in Tea Leaves during the Black Tea Manufacturing Process
AUTHOR(S): Wang, Dongmei; Kurasawa, Eriko; Yamaguchi, Yuichi; Kubota, Kikue; Kobayashi, Akio
CORPORATE SOURCE: Laboratory of Food Chemistry Department of Nutrition and Food Science, Ochanomizu University, Bunkyo-ku Tokyo, 112-8610, Japan
SOURCE: Journal of Agricultural and Food Chemistry (2001), 49(4), 1900-1903
CODEN: JAFCAU; ISSN: 0021-8561
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Glycosides are known to be precursors of the alc. aroma compds. of black tea. They are hydrolyzed by endogenous glycosidases during the manufg. process. Changes in the amts. of these glycosides during the manufg. process were investigated by using a capillary GC-MS anal. after trifluoroacetyl derivatization of the tea glycosidic fractions. Primeverosides were 3-fold more abundant than glucosides in fresh leaves, but they decreased greatly during the manufg. process, esp. during the stage of rolling. After the final stage of fermn., primeverosides had almost disappeared, whereas glucosides were substantially unchanged. These results show that hydrolysis of the glycosides mainly occurred

during the stage of rolling and confirm that primeverosides are the main black tea aroma precursors. This was also supported by the changes in the glycosidase activities in tea leaves. The glycosidase activities remained at a high level during withering but decreased drastically after rolling.
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:628282 CAPLUS
DOCUMENT NUMBER: 133:219459
TITLE: Cloning and expression of cDNA for .beta.-**primeverosidase** from tea
INVENTOR(S): Sakata, Kanzo; Mizutani, Masaharu
PATENT ASSIGNEE(S): Amano Pharmaceutical Co., Ltd., Japan
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000052177	A1	20000908	WO 2000-JP1242	20000302
W: US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2000245476	A2	20000912	JP 1999-56299	19990304
EP 1158052	A1	20011128	EP 2000-906641	20000302
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: JP 1999-56299 A 19990304
WO 2000-JP1242 W 20000302
AB A .beta.-**primeverosidase**-encoding cDNA is isolated from Camellia var. sinensis by using the oligonucleotide primers derived from the partially detd. amino acid sequences. Also claimed is a method of recombinant prepn. of .beta.-**primeverosidase** by expression of the encoding cDNA sequences in Escherichia coli or Saccharomyces cerevisiae. The enzyme is useful for the prepn. of tea fragrance and primeverose from .beta.-primeverosides.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:433245 CAPLUS
DOCUMENT NUMBER: 133:319560
TITLE: Glycosidases separation and their relation to alcohol aroma production in the flowers of Gardenia jasminoides E.
AUTHOR(S): Dong, Shang-Sheng; Tong, Qi-Qing
CORPORATE SOURCE: Dept. of Tea Science, Zhejiang Univ, Hangzhou, 310029, Peop. Rep. China
SOURCE: Zhejiang Daxue Xuebao, Nongye Yu Shengming Kexueban (2000), 26(1), 89-92
CODEN: ZXSKFJ; ISSN: 1008-9209
PUBLISHER: Zhejiang Daxue Xuebao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Glycosidases were sepd. with CM-Toyopearl 650M column chromatog. in this study. The collected liq. was divided into eleven fractions from A to K by the activities of three glycosidases .beta.-Glucosidase, .beta.-Xylosidase and .beta.-**Primeverosidase**. The relationship between the protein fractions and the seven aroma productions was examd. by observing the aroma-producing reaction of primarily prepd. aroma precursor ext. in the flowers of Gardenia Jasminoides E. It was found that the highest .beta.-Glucosidase and .beta.-**Primeverosidase** activities were in H-fraction, while the greatest .beta.Xylosidase activity was in F-fraction. The enzyme activity of individual fraction showed evident difference in the prodn. of the seven aromas. H-fraction resulted in the prodn. of borneol, linalool, 2-Ph ethanol, Z-3-hexenol and geraniol, while E-fraction brought the highest eugenol prodn. and I-fraction gave the max. benzyl alc. output resp. Of the seven alc. aromas, 2-Ph ethanol and Z-3-hexenol constituted the majority of total prodn. In addn., the expts. in eugenol-primeveroside extd. as substrate from Camellia sasanqua L. showed that .beta.-**Primeverosidase** can really hydrolyze the glycosidic bond in primeveroside and there may exist different pathways of eugenol synthesis in Gardenia Jasminoides E. and Camellia sasanqua L.

L2 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:348961 CAPLUS
DOCUMENT NUMBER: 133:103897
TITLE: .beta.-**Primeverosidase** relationship with floral tea aroma formation during processing of oolong tea and black tea
AUTHOR(S): Sakata, Kanzo
CORPORATE SOURCE: Institute for Chemical Research, Kyoto University, Kyoto, 611-0011, Japan
SOURCE: ACS Symp. Ser. (2000), 754(Caffeinated Beverages), 327-336
CODEN: ACSMC8; ISSN: 0097-6156
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 23 refs. discussing the mol. basis of the floral aroma formation during tea processing, including the role of .beta.-**primeverosidase**, its characteristics, and substrate specificity.
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:577963 CAPLUS
DOCUMENT NUMBER: 132:92492
TITLE: Molecular basis of alcoholic aroma formation during tea processing
AUTHOR(S): Sakata, Kanzo; Watanabe, Naoharu; Usui, Taiichi
CORPORATE SOURCE: Faculty of Agriculture, Shizuoka University, Shizuoka, 422, Japan
SOURCE: Food Health Pac. Rim, Int. Conf. Food Sci. Technol., 3rd (1999), Meeting Date 1997, 93-105. Editor(s): Whitaker, John R. Food & Nutrition Press: Trumbull, Conn.
CODEN: 68BQAF
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Alc. tea aroma compds., such as geraniol and linalool, are known to mainly contribute to the floral aroma of oolong and black tea, and to be produced during the fermn. process in their manufg. Interest was raised in oolong tea which is processed via the most complicated processing to be rich in floral aroma. Recently, the alc. tea aroma precursors were isolated and identified as well as the specific enzyme (.beta.-**primeverosidase**) concerned with the aroma formation. From the tea leaves (Camellia sinensis var. sinensis cvs. Shuixian and Maoxie) to be processed to oolong tea, alc. aroma precursors of geraniol, linalool, 2-phenylethanol, benzyl alc., linalool oxides I and II (trans- and cis-linalool 3,6-oxide), and Me salicylate as .beta.-primeverosides (6-O-.beta.-D-xylopyranosyl-.beta.-D-glucopyranosides) were isolated and identified, guided by an enzymic hydrolysis (with the acetone powder prepd. from cv. Yabukita) and followed by GC and GC-MS analyses. Aroma precursors of linalool oxides III and IV (cis- and trans-linalool 3,7-oxides) and (Z)-3-hexenol were present particularly as 6-O-.beta.-D-apiofuranosyl-.beta.-glucopyranoside and .beta.-D-glucopyranoside, resp. .beta.-Primeverosidases was purified from fresh leaves of cv. Yabukita for Japanese green tea, cv. Shuixian for oolong tea and a cultivar of C. s. var. assamica for black tea. The mol. wt. of each enzyme was shown to be 60.5, 60.2 and 60.3 kDa by TOFMS, resp. The enzymic characteristics (optimum temp., 45.degree.C; stable temp., 40-45.degree.C; optimum pH, 4; pH stability, pH 3.5; specific activity, 0.90-0.99 unit/mg) were very similar to each other. The enzyme was confirmed to hydrolyze the aroma precursors, .beta.-primeverosides as well as 6-O-.beta.-D-apiofuranosyl-.beta.-D-glucopyranoside, into disaccharides and each aglycon (alc. tea aroma) without further hydrolysis. As a consequence, the alc. aroma formation during processing of fermented tea (oolong and black tea) has been substantiated on a mol. basis that most of the alc. tea aroma compds. are stored mainly as disaccharide glycosides (.beta.-primeverosides and 6-O-.beta.-D-apiofuranosyl-.beta.-D-glucopyranosides) and generated by the action of a specific enzyme, .beta.-**primeverosidase**, during fermn. process in tea manufg.
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:143810 CAPLUS
TITLE: .beta.-**Primeverosidase** concerned with the floral tea aroma formation during processing of oolong tea and black tea
AUTHOR(S): Sakata, K.; Ma, S.; Guo, W.

CORPORATE SOURCE: Institute for Chemical Research, Kyoto University, Uji, 611-0011, Japan
SOURCE: Book of Abstracts, 217th ACS National Meeting, Anaheim, Calif., March 21-25 (1999), AGFD-077. American Chemical Society: Washington, D. C.
CODEN: 67GHA6
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB Floral tea aroma such as geraniol, linalool, etc. of oolong tea and black tea are known to be generated during fermn. process in their manufg. From the tea leaves (Camellia sinensis var. sinensis cvs. Shuixian and Maoxie) to be processed to oolong tea, we have isolated and identified alc. aroma precursors of geraniol, linalool, etc. mainly as .beta.-primeverosides (6-O-.beta.-D-xylopyranosyl-.beta.-D-glucopyranosides). We have also purified .beta.-primeverosidases from fresh leaves of cv. Yabukita for Japanese green tea, cv. Shuixian for oolong tea and a cultivar of C. s. var. assamica. The mol. wt. of each enzyme was shown to be 60.5, 60.2 and 60.3 kDa by TOFMS, resp. The enzyme was confirmed to effectively hydrolyze the aroma precursors into each aglycon (alc. aroma) and disaccharide without further hydrolysis. Substrate specificity of the enzyme will also be discussed together with preliminary approaches to prep. affinity chromatog. matrix for the enzyme.

L2 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:56625 CAPLUS
DOCUMENT NUMBER: 130:94562
TITLE: Molecular basis of floral aroma formation during oolong tea manufacturing
AUTHOR(S): Sakata, Kanzo
CORPORATE SOURCE: Inst. Chem. Res., Kyoto Univ., Uji, 611, Japan
SOURCE: Kagaku to Seibutsu (1999), 37(1), 20-27
CODEN: KASEAA; ISSN: 0453-073X
PUBLISHER: Gakkai Shuppan Senta
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review with 14 refs., on the manufg. process of oolong tea products, aroma constituents and alc. aroma precursors (linalyl .beta.-primeveroside, etc.) of oolong tea leaves, isolation and substrate specificity of .beta.-**primeverosidase** of tea leaves, and distribution of .beta.-primeveroside aroma compds. and .beta.-**primeverosidase** in tea leaves.

L2 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:325130 CAPLUS
DOCUMENT NUMBER: 128:282083
TITLE: Characterization of .beta.-**Primeverosidase**, Being Concerned with Alcoholic Aroma Formation in Tea Leaves To Be Processed into Black Tea, and Preliminary Observations on Its Substrate Specificity
AUTHOR(S): Ijima, Yasuyuki; Ogawa, Kenji; Watanabe, Naoharu; Usui, Taichi; Ohnishi-Kameyama, Mayumi; Nagata, Tadahiro; Sakata, Kanzo
CORPORATE SOURCE: Faculty of Agriculture Department of Applied Biological Chemistry, Shizuoka University, Shizuoka, 422, Japan
SOURCE: J. Agric. Food Chem. (1998), 46(5), 1712-1718
CODEN: JAFCAU; ISSN: 0021-8561
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A .beta.-**primeverosidase** has been, for the first time, purified from fresh leaves of a cultivar (Camellia sinensis var. assamica) for black tea in the same way as in the case of green and oolong tea leaves previously reported. The mol. wt. was shown to be 60,300 by MALDI-TOFMS anal. Its pI, optimum temp., and pH are 9.5, 45, and 4, resp. The enzyme is stable below 40 and between pH 4 and 5. These enzymic characteristics are very similar to those of the .beta.-primeverosidases from cvs. Yabukita and Shuixian which are exclusively processed from green and oolong tea, resp. Each .beta.-**primeverosidase** from tea leaves for green, oolong, and black teas was further purified by HPLC (ODS) and digested by trypsin to be analyzed by HPLC (ODS capillary column). Their chromatograms were not identical but very similar to each other. The mol. wt. differences among these enzymes (60,500, 60,200, and 60,300 from the cultivars for green, oolong, and black teas, resp.) suggest that these .beta.-primeverosidases are enzymically identical, but slightly different on their mol. basis. Next, several kinds of disaccharide glycosides which had been isolated as aroma precursors were reacted with endogenous .beta.-**primeverosidase** and .beta.-glucosidase fractions from fresh tea

leaves (cv. Yabukita). The .beta.-**primeverosidase** hydrolyzed .beta.-primeverosides and 6-O-.beta.-D-apiofuranosyl-.beta.-D-glucopyranosides isolated as aroma precursors from tea leaves more effectively than other disaccharide glycosides to hydrolyze them into each disaccharide and aglycon. It also hydrolyzed both .beta.-vicianoside and 6-O-.alpha.-L-arabinofuranosyl-.beta.-D-glucopyranoside into each disaccharide and aglycon, but the amt. of generated aroma was smaller than that produced by the .beta.-glucosidase fraction.

L2 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:403249 CAPLUS
DOCUMENT NUMBER: 127:120817
TITLE: The Role of Diglycosides as Tea Aroma Precursors: Synthesis of Tea Diglycosides and Specificity of Glycosidases in Tea Leaves
AUTHOR(S): Matsumura, Sachiko; Takahashi, Shunya; Nishikitani, Mariko; Kubota, Kikue; Kobayashi, Akio
CORPORATE SOURCE: Laboratory of Food Chemistry Department of Nutrition and Food Science, Ochanomizu University, Tokyo, 112, Japan
SOURCE: J. Agric. Food Chem. (1997), 45(7), 2674-2678
CODEN: JAFCAU; ISSN: 0021-8561
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two general synthetic routes were established in order to synthesize two diglycosides, primeverosides (1) and vicianosides (2), found in tea leaves. Procedure 1 is based on the Koenig-Knorr type of condensation of aglycon alcs. and 1-.alpha.-bromohexabenzoylprimeverose (6) and is suitable for the condensation of primary alcs. Procedure 2 is to combine tribenzoyl-.beta.-D-glucoside (8) and 1-.alpha.-bromotribenzoylxylose (4). The primeveroside of a tertiary alc. was synthesized by this method which is also applicable to the synthesis of vicianosides. The hydrolysis rate of each of the 12 synthesized glycosides by a crude tea enzyme was evaluated, which suggest that the main glycosidase is **primeverosidase** and the enzyme mixt. shows substrate specificity to both the carbohydrate and aglycon moieties.

L2 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:132728 CAPLUS
DOCUMENT NUMBER: 126:143473
TITLE: Purification of a .beta.-**primeverosidase** concerned with alcoholic aroma formation in tea leaves (cv. Shuixian) to be processed to oolong tea
AUTHOR(S): Ogawa, Kenji; Ijima, Yasuyuki; Guo, Wenfei; Usui, Taichi; Tong, Qiqing; Watanabe, Naoharu; Sakata, Kanzo
CORPORATE SOURCE: Department of Applied Biological Chemistry Faculty of Agriculture, Shizuoka University, Shizuoka, 422, Japan
SOURCE: Journal of Agricultural and Food Chemistry (1997), 45(3), 877-882
CODEN: JAFCAU; ISSN: 0021-8561
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB .beta.-**Primeverosidase**, which is concerned with the alc. aroma formation in tea leaves, was purified from fresh tea leaves (Camellia sinensis var. Sinensis cv. Shuixian) to be processed to oolong tea by successive pptn. with acetone and ammonium sulfate followed by column chromatog. on CM-Toyopearl and Mono S-HR. The mol. mass was shown to be 61 and 60.3 kDa by SDS-PAGE and TOFMS, resp. Its pI, optimum temp., and pH are 9.5, 45.degree.C, and 4, resp. The enzyme is stable below 45.degree.C and between pH 3 and 5. The enzyme hydrolyzes .beta.-primeveroside into primeverose and an aglycon without further hydrolysis. These enzymic characteristics were found to be quite similar to those of the .beta.-**primeverosidase** from cv. Yabukita exclusively processed to green tea. As most of the alc. tea aroma precursors have been isolated as .beta.-primeverosides, the main route of the aroma formation in oolong tea has been elucidated on a mol. basis.

L2 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:736463 CAPLUS
DOCUMENT NUMBER: 126:28380
TITLE: Studies on the aroma formation mechanism in oolong tea. Part V. isolation and characterization of a .beta.-**primeverosidase** concerned with alcoholic aroma formation in tea leaves
AUTHOR(S): Guo, Wenfei; Ogawa, Kenji; Yamauchi, Kazuyo; Watanabe, Naoharu; Usui, Taiichi; Luo, Shaojun; Sakata, Kanzo

CORPORATE SOURCE: Department of Applied Biological Chemistry, Shizuoka University, Shizuoka, 422, Japan
SOURCE: Bioscience, Biotechnology, and Biochemistry (1996), 60(11), 1810-1814
CODEN: BBBIEJ; ISSN: 0916-8451
PUBLISHER: Japan Society for Bioscience, Biotechnology, and Agrochemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A .beta.-**primeverosidase** (I) concerned with alc. aroma formation during tea processing was purified from cv. Yabukita (Camellia sinensis var. sinensis). The acetone powder was subjected to (NH4)2SO4 pptn. and then to chromatog. purifn. with CM-Toyopearl 650M to give 3 active fractions, glucosidases (GI, GII, and GIII fractions). The main GI-GII fraction was characterized as a I, which hydrolyzed a .beta.-primeveroside into an aglycon and a primeverose (6-O-.beta.-D-xylopyranosyl-.beta.-D-glucopyranose) and was mainly concerned with alc. tea aroma formation. The GI-GII fraction was further sepd. into GIIa (main) and GIIb (minor) by ion exchange Mono S column chromatog. GIIa was detd. to be a monomeric protein of 61 kDa with a pI of 9.4. GIIa was stable at temps. of <45.degree. and pH 5-7, and exhibited its highest activity at 50.degree. and at pH 5.

L2 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:703733 CAPLUS
DOCUMENT NUMBER: 126:18002
TITLE: Molecular basis of alcoholic aroma formation in tea leaves
AUTHOR(S): Sakata, Kanzo; Ogawa, Kenji; Ijima, Yasuyuki; Watanabe, Naoharu; Usui, Taiichi; Guo, Wenfei; Moon, Jae-Hak; Dong, Shangsheng; Tong, Qiqing; Luo, Shaojun
CORPORATE SOURCE: Faculty Agriculture, Shizuoka University, Japan
SOURCE: Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1996), 38th, 511-516
CODEN: TYKYDS
PUBLISHER: Nippon Kagakkai
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In the course of studies on aroma formation mechanism in oolong tea (Camellia sinensis sinensis), the mol. basis was shown in that most of alc. tea aroma is generated by endogenous enzymic hydrolysis of glycosidic aroma precursors during tea manufg. The main alc. aroma precursors of geraniol, linalool, 2-phenylethanol, benzyl alc., linalool oxides I and II (trans- and cis-linalool 3,6-oxides) and Me salicylate as .beta.-primeverosides, guided by an enzymic hydrolysis (with the acetone powder prepd. from cv. Yabukita) followed by GC and GC-MS analyses were isolated and identified. Aroma precursors of linalool oxides III and IV (trans- and cis-linalool 3,7-oxides) and (Z)-3-hexenol were exceptionally isolated as 6-O-.beta.-D-apiofuranosyl-.beta.-D-glucopyranosides and a .beta.-D-glucopyranoside, resp. from oolong tea leaves. In cv. Yabukita for green tea, benzyl alc. was stored as ca. 1:1 mixt. of .beta.-primeveroside and .beta.-D-glucopyranoside. As a preliminary expt., a new glycosidase (.beta.-**primeverosidase**) was purified from fresh leaves of cv. Yabukita by ammonium sulfate pptn. followed by chromatogs. with CM Toyopearl and Mono S-MR. This glycosidase was one of the main glycosidases involved in the alc. aroma formation in tea leaves. This is the 2nd example of .beta.-**primeverosidase**. Purifn. of the .beta.-**primeverosidase** from fresh oolong tea leaves was also carried out in the same manner. The mol. wt. was shown lobe 61 and 60.3 kDa by SiDS-PAGE and TGFMS, resp. Its pI and Optimum temp. and pM are 9.5, 45.degree.C and 4, resp. The enzyme is stable below 45.degree.C, and between pH 3 to 5. These enzymic characteristics are quite similar to those of the .beta.-**primeverosidase** from cv. Yabukita. The .beta.-**primeverosidase** hydrolyzed a .beta.-apiofuranoside into each constituent dissacharide and aglycon without further hydrolysis as effectively as in the case of a .beta.-**primeverosidase**. Amts. of alc. aroma precursor and glycosidase activity in each part of the tea shoot (cvs. Yabukita and Irumi) were indirectly measured by means of a crude enzyme assay. The aroma precursors were abundant in young leaves and decreased as the leaf aged. Glycosidase activity also decreased as leaves aged, but was high in stems.

L2 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:476974 CAPLUS
DOCUMENT NUMBER: 125:108892
TITLE: .beta.-**Primeverosidase** and its preparation from tea leaves
INVENTOR(S): Sakata, Kanzo; Hara, Masahiko

PATENT ASSIGNEE(S): Mitsui Norin Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08140675	A2	19960604	JP 1994-311281	19941122
JP 3101168	B2	20001023		

AB **Primeverosidase**, useful in the prepn. of non-volatile tea aroma, is extd. from tea leaves and characterized. The enzyme exhibits a pH optimum 4-6, temp. optimum 50.degree., and mol. wt. 61,000 by SDS-PAGE.

L2 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:609851 CAPLUS
DOCUMENT NUMBER: 123:31759
TITLE: Studies on aroma formation mechanism of oolong tea. Part 4. A **primeverosidase** as a main glycosidase concerned with the alcoholic aroma formation in tea leaves
AUTHOR(S): Guo, Wenfei; Yamauchi, Kazuyo; Watanabe, Naoharu; Usui, Taiichi; Luo, Shaojun; Sakata, Kanzo
CORPORATE SOURCE: Fac. Agriculture, Shizuoka Univ., Shizuoka, 422, Japan
SOURCE: Biosci., Biotechnol., Biochem. (1995), 59(5), 962-4
CODEN: BBBIEJ; ISSN: 0916-8451
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors isolated and characterized a **primeverosidase** from fresh tea leaves (Camellia sinensis var. sinensis cv. Yabukita) as a main glycosidase involved in alc. aroma (geraniol, linalool, benzyl alc., 2-phenylethanol, linalool oxides etc.) formation from their aroma precursors (.beta.-primeverosides; 6-O-.beta.-D-xylopyranosyl-.beta.-D-glucopyranosides) in tea leaves.

L2 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1987:530915 CAPLUS
DOCUMENT NUMBER: 107:130915
TITLE: Azoxyglycoside contents in seeds of several cycad species and various parts of Japanese cycad
AUTHOR(S): Yagi, Fumio; Tadera, Kenjiro
CORPORATE SOURCE: Dep. Agric. Chem., Kagoshima Univ., Kagoshima, 890, Japan
SOURCE: Agric. Biol. Chem. (1987), 51(6), 1719-21
CODEN: ABCHA6; ISSN: 0002-1369
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The cycasin content in seeds of a series of cycad species ranged from 0.08 to 1.3%; macrozamin in this same series ranged 0.0-1.77%. The 2 azoxyglycosides were also detected in various amts. in other organs (leaves, pith, tuberous roots) of the Japanese species (Cycas revoluta) from the above series. The importance of measuring levels of methylazoxymethanol when estg. azoxyglycoside contents of plants (in connection with glycosidase activities) is discussed.

L2 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1980:528734 CAPLUS
DOCUMENT NUMBER: 93:128734
TITLE: Detection and distribution of **primeverosidase** and genteobiosidase. Observations on enzymic activities of aqueous macerations of powdered plants
AUTHOR(S): Plouvier, Victor
CORPORATE SOURCE: Lab. Chim. Appl., Corps Org. Mus. Hist. Nat., Paris, 75005, Fr.
SOURCE: C. R. Seances Acad. Sci., Ser. D (1980), 290(15), 1071-4
CODEN: CHDDAT; ISSN: 0567-655X
DOCUMENT TYPE: Journal
LANGUAGE: French
AB In 130 species tested for **primeverosidase**, the enzyme occurred more frequently than rutinase, esp. in the mushrooms (Basidiomycetes), certain Cryptogams, and nearly all primeveroside-contg. higher plants. The distribution of gentiobiosidase was quite similar to that of **primeverosidase**. The enzymic activities were greater in powd. plant prepns. than in prepns. obtained from filtered aq. macerations.

L2 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1926:13106 CAPLUS
DOCUMENT NUMBER: 20:13106
ORIGINAL REFERENCE NO.: 20:1632e
TITLE: The presence, in emulsin of almonds, of two new enzymes, **primeverosidase** and primeverase
AUTHOR(S): Bridel, M.
SOURCE: Bull. soc. chim. biol. (1926), 8, 67-70
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB See C. A. 19, 2514; 20, 435.

L2 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1926:13096 CAPLUS
DOCUMENT NUMBER: 20:13096
ORIGINAL REFERENCE NO.: 20:1631h
TITLE: Primeverose, primeverosides and **primeverosidase**
AUTHOR(S): Bridel, M.
SOURCE: Bull. soc. chim. biol. (1925), 7, 925-32
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB See C. A. 19, 2514.

L2 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1926:3501 CAPLUS
DOCUMENT NUMBER: 20:3501
ORIGINAL REFERENCE NO.: 20:435a-b
TITLE: Presence in the emulsin of almonds of two new enzymes, **primeverosidase** and primeverase
AUTHOR(S): Bridel, Marc
SOURCE: Compt. rend. (1925), 181, 523-4
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB cf. C. A. 19, 2514. The emulsin of almonds, when used in sufficient amts. and for sufficient time (30 days), hydrolyzes an aq. soln. of monotropitoside. The hydrolysis is not arrested by primeverose, the latter being hydrolyzed to glucose and xylose. Therefore, the emulsin of almonds contains 2 enzymes which have not been noted hitherto, viz., **primeverosidase** and primeverase.

L2 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1925:19316 CAPLUS
DOCUMENT NUMBER: 19:19316
ORIGINAL REFERENCE NO.: 19:2514c-e
TITLE: Primeverose, the primeverosides and the **primeverosidase**
AUTHOR(S): Bridel, Marc
SOURCE: Compt. rend. (1925), 180, 1421-3
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB cf. C. A. 19, 2108. From 18 kg. of fresh roots of Primula officinalis Jacq., 20 g. of a cryst. mixt. of primeverine and primulaverine were extd. A fermentative hydrolysis of this mixt. yielded primeverose which is identical to xyloglucose extd. from gentiacauloside, monotropitoside and from rhamnicoside. The reducing power of these glucosides is 0.646 to 0.648 of that of glucose and not 0.590 as calcd. by Goris, Mascr.acte.e and Vischniac. The name primeverosides is proposed as a generic term to include the 5 cryst. glucosides which yield primeverose upon f.acte.rmentative hydrolysis. Three of these primeverosides possess similar constitutions; thus monotropitoside yields on hydrolysis Me salicylate; primeveroside and primulaveroside are isomers and yield Me methoxysalicylate, the first giving the m- and the second the p-compd. In the 2 remaining primeverosides the products combined with primeverose are different; gentiacauleol from gentiacauloside is a flavonic deriv., and rhamnicogenol from rhamnicoside is a pentahydroxymethylanthrol. The term primeverase should mean the enzyme of primeverose which yields xylose and glucose; it is not yet known to exist in the vegetable kingdom. **Primeverosidase** should designate the enzyme of the l-rotatory primeverosides derived from .beta.-primeverose; it has been found in several species of plants.

=> d 1- ibib abs
YOU HAVE REQUESTED DATA FROM 51 ANSWERS - CONTINUE? Y/(N):y

L7 ANSWER 1 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:572129 CAPLUS
DOCUMENT NUMBER: 129:310356
TITLE: Relation of intestinal **bacteria** to pharmacological effects of glycosides
AUTHOR(S): Kobashi, Kyoichi; Akao, Teruaki
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Toyama Medical and Pharmaceutical University, Toyama, 930-01, Japan
SOURCE: Biosci. Microflora (1997), 16(1), 1-7
CODEN: BIMIFM; ISSN: 1342-1441
PUBLISHER: Japan Bifidus Foundation
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Popular natural glycosides such as glycyrrhizin (GL, licorice), barbaloin (aloe) and baicalin (BG, Scutellaria baicalensis) were studied regarding their metabolic fates and actions in relation to intestinal **bacteria** by using germ-free and gnotobiote rats. When GL was administered orally, the aglycon, glycyrrhetic acid (GA), was not detected in the plasma or intestinal contents of germ-free rats, but was detected in considerable amts. in the plasma and intestinal contents of conventional and gnotobiote rats, assocd. with the human intestinal bacterium Eubacterium sp. strain GLH capable of hydrolyzing GL to GA. GL was not detected in the plasma of the three groups of rats after oral administration. GL was effective in the conventional and gnotobiote rats with liver injury caused exptl. by carbon tetrachloride, but not in germ-free rats with liver injury. These results indicate that orally administered GL is a prodrug and activated to GA by intestinal **bacteria**. Barbaloin, a laxative, was ineffective in conventional rats, but showed strong purgative action to gnotobiote rats assocd. with the human intestinal bacterium Eubacterium sp. strain BAR, which is capable of transforming barbaloin to aloe-emodin anthrone. Barbaloin is also a prodrug and activated to aloe-emodin anthrone by human intestinal **bacteria**. Animal differences in the laxative effect of barbaloin are due to species differences in intestinal **bacteria**. When BG was administered orally to conventional rats, BG, but not the aglycon baicalein (B), was found in the plasma. However, when BG was administered to germ-free rats, both BG and B were hardly detected in the plasma. Even after oral administration of B, BG was detected, but not B. These findings suggest that BG is a prodrug hydrolyzed to B by intestinal **bacteria**, and then conjugated to BG from the absorbed B in the body.

L7 ANSWER 2 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:234046 CAPLUS
DOCUMENT NUMBER: 129:24861
TITLE: Purification and characterization of a novel .beta.-glucosidase from Clavibacter michiganense that hydrolyzes glucosyl ester linkage in steviol glycosides
AUTHOR(S): Nakano, Hirofumi; Okamoto, Katsuyuki; Yatake, Tsuneya; Kiso, Taro; Kitahata, Sumio
CORPORATE SOURCE: Osaka Municipal Technical Research Institute, Osaka, 536, Japan
SOURCE: J. Ferment. Bioeng. (1998), 85(2), 162-168
CODEN: JFBIEX; ISSN: 0922-338X
PUBLISHER: Society for Fermentation and Bioengineering, Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
AB C. michiganense was identified as a **microorganism** that hydrolyzed the glucosyl ester linkages at site 19 of steviol glycosides. An enzyme that catalyzes the hydrolysis was purified from the cell-free ext. using streptomycin treatment, (NH4)2SO4 fractionation, Q-Sepharose anion exchange chromatog., Sephacryl S-100 gel filtration, and ether-Toyopearl hydrophobic chromatog. The purified enzyme migrated as a single protein band in PAGE in the presence and absence of SDS, and isoelec. focusing. The mol. wt. was estd. to be .apprx.65 kDa, both by gel filtration and SDS-PAGE. A pI of 4.6, was obtained using isoelec. focusing. The enzyme was most active at around pH 7.5 and at 45.degree., and was stable at pH 6-10 and below 40.degree.. Both Hg2+ and p-chloromercuribenzoate inhibited activity. The enzyme hydrolyzed glucosyl ester linkages at site 19 of rebaudioside A, stevioside, rubusoside, and steviol monoglucosyl ester, although it did not cleave the 13-O-linked glucosyl residue of rubusoside and steviol monoside. A transglucosylation product having a cellobiosyl residue at site 19 was

formed when rubusoside was used as a glucosyl donor and acceptor. The enzyme hydrolyzed glucosidic linkages in p-nitrophenyl .beta.-glucoside faster than glucosyl ester linkages in the steviol glycosides. It also acted on Ph .beta.-glucoside and salicin, and faintly on sophorobiose and cellobiose. These results indicate that the enzyme is a noval .beta.-glucosidase that hydrolyzes ester linkages.

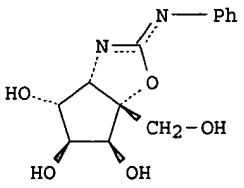
L7 ANSWER 3 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:101459 CAPLUS
DOCUMENT NUMBER: 128:228347
TITLE: Effect of Methanobrevibacter sp MF1 inoculation on **glycoside** hydrolase and polysaccharide depolymerase activities, wheat straw degradation and volatile fatty acid concentrations in the rumen of gnotobiotically-reared lambs
AUTHOR(S): Fonty, Gerard; Williams, Alan G.; Bonnemoy, Frederique; Morvan, Brieuc; Withers, Susan E.; Gouet, Philippe
CORPORATE SOURCE: Laboratoire de Microbiologie, INRA, Centre de Recherches de Clermont-Ferrand-Theix, Saint-Genes-Champanelle, Fr.
SOURCE: Anaerobe (1997), 3(6), 383-389
CODEN: ANAEF8; ISSN: 1075-9964
PUBLISHER: Academic Press Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Four naturally born lambs were placed in sterile isolators 24 h after birth before the natural establishment of cellulolytic microorganisms and archaea methanogens. At the age of 6 wk they were inoculated with pure cultures of the strains FD1 and 007 of Ruminococcus flavefaciens and at the age of 4 mo with a pure culture of Methanobrevibacter sp. MF1. Following the establishment of MF1, the population of R. flavefaciens slightly increased in the rumen of the four lambs, there was also an increase in straw degrdn., in the activity of some **glycoside** and polysaccharide hydrolases of the adherent microbial populations and in the concn. of acetate in ruminal contents.

L7 ANSWER 4 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:17894 CAPLUS
DOCUMENT NUMBER: 128:101141
TITLE: Description of the .beta.-glucosidase activity of wine yeasts
AUTHOR(S): Mateo, J. J.; Di Stefano, R.
CORPORATE SOURCE: Istituto Sperimentale per Enologia, Asti, 14100, Italy
SOURCE: Food Microbiol. (1997), 14(6), 583-591
CODEN: FOMIE5; ISSN: 0740-0020
PUBLISHER: Academic Press Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB .beta.-Glucosidase activity of different Saccharomyces strains has been detected on the basis of its hydrolytic activity on para-nitrophenyl-.beta.-glucoside (pNPG) and terpene glycosides of Muscat wine. This enzymic activity is induced by the presence of bound .beta.-glucose as the only carbon source in the medium and seems to be a characteristic of **yeast** strain. .beta.-Glucosidase is assocd. with the cell wall and is found in the insol. fraction obtained from lysed **yeast** cells. Saccharomyces .beta.-glucosidase is quite glucose independent, so that its activity is reduced by about 40% in the presence of 200 g/l of glucose, but it is inhibited by about 50% with 5% ethanol in the medium; therefore, its technol. use seems to be restricted to the first stages in the wine-making process.

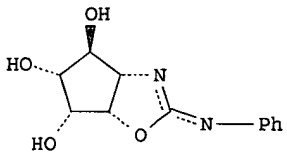
L7 ANSWER 5 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:555855 CAPLUS
DOCUMENT NUMBER: 127:231743
TITLE: Characterization of a **bacterial** consortium degrading the lignin model compound vanillyl-.beta.-D-glucopyranoside
AUTHOR(S): Cespedes, Ricardo; Gonzalez, Bernardo; Vicuna, Rafael
CORPORATE SOURCE: Facultad Ciencias Biologicas, P. Universidad Catolica Chile, Santiago, Chile
SOURCE: J. Basic Microbiol. (1997), 37(3), 175-180
CODEN: JBMIEQ; ISSN: 0233-111X
PUBLISHER: Akademie Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Aryl .beta.-D-glycosides were described as intermediates in lignin biodegrdn. The catabolism of this kind of compds. was poorly studied.

The isolation and initial characterization of a **bacterial** consortium degrading vanillyl .beta.-D-glucopyranoside is reported. The consortium is able to grow on and completely degrade the dimer vanillyl .beta.-D-glucopyranoside. The consortium is composed of 3 microorganisms: Chryseomonas luteola, Moraxella phenylpyruvica, and Pseudomonas sp. Complete degrdn. of the **glycoside** required C. luteola and M. phenylpyruvica, although only C. luteola cleaved the aryl-**glycoside** linkage. Oxidn. of vanillyl alc., a product of the aryl-**glycoside** cleaving reaction, to the resp. acid was carried out by M. phenylpyruvica. Vanillic acid was used as growth substrate by M. phenylpyruvica and Pseudomonas. C. luteola can grow on other aryl .beta.-glycosides, accumulating the aryl moiety in the culture. .beta.-Glucosidase in C. luteola is probably the key enzyme in the catabolism of aryl-glycosides by this consortium.

L7 ANSWER 6 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:406195 CAPLUS
DOCUMENT NUMBER: 127:158309
TITLE: Synthesis and biological evaluation of potent glycosidase inhibitors: N-phenyl cyclic isourea derivatives of 5-amino- and 5-amino-C-(hydroxymethyl)-1,2,3,4-cyclopentanetetraols
AUTHOR(S): Uchida, Chikara; Kimura, Hiroshi; Ogawa, Seiichiro
CORPORATE SOURCE: Department Applied Chemistry, Faculty Science Technology, Keio University, Yokohama, 223, Japan
SOURCE: Bioorg. Med. Chem. (1997), 5(5), 921-939
CODEN: BMECEP; ISSN: 0968-0896
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I



II

AB Twenty-four stereoisomers of 5-amino- and 5-amino-c-(hydroxymethyl)-1,2,3,4-cyclopentanetetraols and twenty-six of the corresponding N-Ph cyclic isourea derivs. were assayed for inhibitory activity against six glycosidases. Among them, as has been expected for structure mimics of putative transition state glucopyranosyl cation for **glycoside** hydrolysis, 1L-(1,2,4,5/3)-5-amino-1-C-(hydroxymethyl)-1,2,3,4-cyclopentanetetraol and its N-Ph cyclic isourea deriv. were shown to have strong inhibitory activity, IC50 4.times.10-7 and 7.6.times.10-9 M, resp., against baker's **yeast** .alpha.-glucosidase. It has been analogously explained that compds. R,S-I and R,S-II possessed high inhibitory potency against Escherichia coli and bovine liver .beta.-galactosidases, resp.

L7 ANSWER 7 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:404903 CAPLUS
DOCUMENT NUMBER: 127:95466
TITLE: Synthesis of isopropyl-1-thio-.beta.-D-glucopyranoside (IPTGlc), an inducer of Aspergillus niger B1 .beta.-glucosidase production
AUTHOR(S): Birk, Ruth; Ikan, Ariel; Bravdo, Benami; Braun, Sergei; Shoseyov, Oded
CORPORATE SOURCE: The Kennedy-Leigh Center for Horticultural Research, The Faculty of Agriculture, The Hebrew University of Jerusalem, Rehovot, 76100, Israel
SOURCE: Appl. Biochem. Biotechnol. (1997), 66(1), 25-30
CODEN: ABIBDL; ISSN: 0273-2289
PUBLISHER: Humana
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Prodn. of .beta.-glucosidase in Aspergillus niger B1 is subjected to catabolic repression by glucose. Aspergillus niger B1 grown on bran as a

carbon source secreted .beta.-glucosidase. The max. level of the enzyme was reached after 7 d of fermn. Addn. of 1% glucose to the medium suppressed .beta.-glucosidase prodn. to undetectable levels. In this study, the org. synthesis of a potential inducer of .beta.-glucosidase prodn. by A. niger B1's reported. Isopropyl-1-thio-.beta.-D-glucopyranoside (IPTGlc) was synthesized using a two-step org. synthesis protocol. The H-NMR data agreed with those reported previously for the galactoside analog. When IPTGlc was added 24 h after inoculation at a final concn. of 0.4 mM, similar levels of .beta.-glucosidase were reached 3 to 4 d earlier as compared to fermn. without IPTGlc induction. In practice, this may translate to a more efficient method of producing .beta.-glucosidase from this **fungus**.

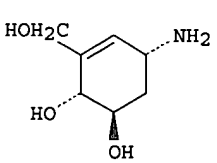
L7 ANSWER 8 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:365001 CAPLUS
DOCUMENT NUMBER: 127:17869
TITLE: The synthesis of novel enzyme inhibitors and their use in defining the active sites of glycan hydrolases
AUTHOR(S): Stick, Robert V.
CORPORATE SOURCE: Department of Chemistry, The University of Western Australia, Nedlands, 6907, Australia
SOURCE: Top. Curr. Chem. (1997), 187(Glycoscience), 187-213
CODEN: TPCCAQ; ISSN: 0340-1022
PUBLISHER: Springer
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 71 refs. on the design and prepn. of epoxyallyl glycosides, aziridines, and thiirans as potential inhibitors of .beta.-D-glucosidases and .beta.-D-glucan hydrolases that are responsible for various processes that occur in plants and **bacteria**. Some time is devoted to the concept of ".beta.-acarbose", a diastereoisomer of the naturally occurring acarbose, as a novel, competitive inhibitor of the above enzymes. Throughout this work, attention was continually directed to the synthesis of potential inhibitors in optically-pure form.

L7 ANSWER 9 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:362869 CAPLUS
DOCUMENT NUMBER: 127:92478
TITLE: .beta.-Mannanolytic system of Aureobasidium pullulans
AUTHOR(S): Kremnicky, Lubomir; Biely, Peter
CORPORATE SOURCE: Institute Chemistry, Slovak Academy Sciences, Bratislava, 84238, Slovakia
SOURCE: Arch. Microbiol. (1997), 167(6), 350-355
CODEN: AMICCW; ISSN: 0302-8933
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A xylanolytic **yeast** strain Aureobasidium pullulans NRRL Y 2311-1, was found to produce all enzymes required for complete degrdn. of galactomannan and galactoglucomannan. The enzymes differed in function and cellular localization: endo-.beta.-1,4-mannanase was secreted into the culture fluid, .beta.-mannosidase was strictly intracellular, and .alpha.-galactosidase and .beta.-glucosidase were found both extracellularly and intracellularly. Among these enzyme components, only extracellular .beta.-mannanase and intracellular .beta.-mannosidase were inducible. The prodn. of .beta.-mannanase and .beta.-mannosidase was 10- to 100-fold higher in galactomannan medium than in medium with one of the other carbon sources. .beta.-Mannanase and .beta.-mannosidase were coinduced in glucose-grown cells by galactomannan, galactoglucomannan, and .beta.-1,4-manno-oligosaccharides. The natural inducer of extracellular .beta.-mannanase and intracellular .beta.-mannosidase appeared to be .beta.-1,4-mannobiose. Synthesis of both enzymes was completely repressed by glucose, mannose, or galactose. The synthetic **glycoside** methyl-.beta.-D-mannopyranoside served as a nonmetabolizable inducer of both .beta.-mannosidase and .beta.-mannanase.

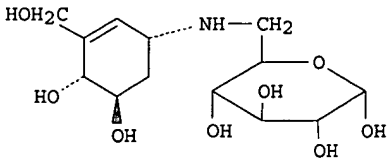
L7 ANSWER 10 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:298685 CAPLUS
DOCUMENT NUMBER: 126:290463
TITLE: **Glycoside** hydrolase production by an anaerobic rumen **fungus** Caecomyces communis
AUTHOR(S): Bata, J.; Gerbi, C.
CORPORATE SOURCE: Laboratoire de biologie cellulaire et moleculaire des parasites opportunistes, Universite Blaise Pascal, Batiment Biologie A, Aubiere, 63177, Fr.
SOURCE: Res. Microbiol. (1997), 148(3), 263-269
CODEN: RMCREW; ISSN: 0923-2508
PUBLISHER: Elsevier

DOCUMENT TYPE: Journal
LANGUAGE: English
AB The ruminal **fungus** Caecomyces communis was grown anaerobically either in a discontinuous cultivation system or in a fermentor with daily withdrawal and addn. of fresh medium. Lowe and Orpin media were tested. The best culture conditions for **glycoside** hydrolase prodn. were obtained in Lowe medium with daily fresh medium addn., whereas the Orpin medium with ruminal fluid was favorable to **fungal** growth and to the enzyme export process. Among **glycoside** hydrolases assessed in both culture fluid and cellular homogenate, .beta.-D-fucosidase activity was preponderant. Most studied enzymes were mainly assocd. with cells (from 50% to 99%). **Glycoside** hydrolase activities were constitutive, but their level was regulated by a carbon source. .beta.-D-Fucosidase and .beta.-D-xylosidase activity prodn. was activated by the assocn. of glucose plus cellobiose, whereas .beta.-D-glucosidase activity prodn. was stimulated by cellobiose alone. Enzyme release could be favored by glucose alone or by Ray grass hay added to glucose plus cellobiose.

L7 ANSWER 11 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:271456 CAPLUS
DOCUMENT NUMBER: 126:343777
TITLE: Synthesis of the 2-deoxyisomaltose analog of acarbose by an improved route to chiral valieneamines
AUTHOR(S): Tagmose, Tina M.; Bols, Mikael
CORPORATE SOURCE: Dep. Organic Chem., Technical Univ. Denmark, Aarhus, DK-8000, Den.
SOURCE: Chem.--Eur. J. (1997), 3(3), 453-462
CODEN: CEUJED; ISSN: 0947-6539
PUBLISHER: VCH
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 126:343777
GI



I

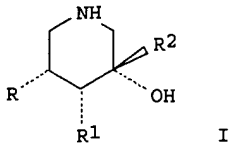


II

AB A 2-deoxyisomaltose analog of acarbose was stereoselectively synthesized in 11 steps with a total yield of 7% starting from 2,6-dibromo-2,6-dideoxy-D-mannono-1,4-lactone. The latter was reduced to the lactol, converted to the Me **glycoside** and hydrogenated to the Me 6-bromo-2,6-dideoxyglycoside. Benzylation of the hydroxy groups, elimination of bromine to a 5-ene and Ferrier carbocylisation gave (2S,3R)-2,3-bisbenzyloxycyclohex-5-enone. 1,2-Addn. of benzyloxymethyl lithium at -110.degree.C gave a 6:1 mixt. of tertiary alcs.; the (1S) isomer was the major one. Reaction with trichloroacetyl isocyanate gave a carbamate, which when dehydrated to the cyanate, spontaneously underwent [1,3] sigmatropic rearrangement to an isocyanate, which on addn. of methanol gave the methylcarbamate. Basic hydrolysis of this compd. gave (2R,3R,5R)-5-amino-1-benzyloxymethyl-2,3-bis(benzyloxy)cyclohex-6-ene, which could be protected to 2-deoxyvalieneamine I. Reaction with 2-azidoethyl 2,3,4-tri-O-benzyl-6-O-triflyl-.alpha.-D-glucopyranoside gave the secondary amine, which was completely de-O-protected with sodium in ammonia to give 6-deoxy-6-[(1R,3R,4R)-3,4-dihydroxy-5-hydroxymethylcyclohex-5-enylamino]-D-glucose II, the 2-deoxyisomaltose analog of acarbose. Compds. I and II were tested for glucosidase inhibition; I was found to be a weak inhibitor of .alpha.-glucosidase.

L7 ANSWER 12 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:14385 CAPLUS
DOCUMENT NUMBER: 126:144467
TITLE: Synthesis of the first 1-azaanalogs of L-sugars
AUTHOR(S): Hansen, Anja; Tagmose, Tina M.; Bols, Mikael
CORPORATE SOURCE: Dep. Organic Chem., Technical Univ. Denmark, Lyngby, DK-2800, Den.
SOURCE: Tetrahedron (1997), 53(2), 697-706
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal

LANGUAGE: English
GI



I

AB Two 1-azaanalogues of L-sugars were prepd. 2-C-methyl-1,2,5-trideoxy-1,5-imino-L-ribitol I (R = Me, R1 = OH, R2 = H) or 1-aza-2-deoxy-L-carbafucose was synthesized from L-arabinose in 9 steps. L-Arabinose was converted to the benzyl **glycoside**, and then to the 3,4-acetonide. Oxidn. of the 2-hydroxy group followed by Wittig methylenation gave benzyl 2-deoxy-3,4-O-isopropylidene-2-methylene-.beta.-L-erythro-pentopyranoside. Stereoselective hydrogenation followed by reductive debenzylation and redn. led to 2-deoxy-3,4-O-isopropylidene-2-C-methyl-L-ribitol, which was ditosylated and treated with benzylamine to give a piperidine. Finally deprotection gave I (R = Me, R1 = OH, R2 = H). 1,3,5-Trideoxy-2-C-hydroxymethyl-1,5-imino-D-erythro-pentitol I (R = OH, R1 = H, R2 = CH2OH)(II) was prepd. from lactose in 7 steps. 2,2'-O-isopropylidene-5-O-(4-methylbenzenesulfonyl)-D-isosaccharino-1,4-lactone was reacted with ammonia to give the 1,5-lactam. Deprotection and redn. gave II. Azasugar I was found to be a potent inhibitor of .alpha.-fucosidase.

L7 ANSWER 13 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:391353 CAPLUS
DOCUMENT NUMBER: 125:56413
TITLE: Manufacture of blue dye compositions with .beta.-glucosidase immobilized on ceramics
INVENTOR(S): Ichi, Takahito
PATENT ASSIGNEE(S): Saneigen Efu Efu Ai Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08067828	A2	19960312	JP 1994-203212	19940829

AB Stable and bright blue dye compns. are manufd. by hydrolyzing iridoid glycosides with .beta.-glucosidase (I) or I-producing **microorganism** immobilized on porous ceramics carriers, then treatment with primary amines. A concd. soln. of Gardenia jasminoides iridoid **glycoside** was passed through a column packed with I immobilized on SM 10 (porous ceramic) at 40.degree. and 4 kg/cm2 for 5 h to manuf. 98.5% iridoid. The iridoid was treated with hydrolyzed soybean at 40.degree. for 120 h in H2O to give blue dye compn.

L7 ANSWER 14 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:230424 CAPLUS
DOCUMENT NUMBER: 124:255528
TITLE: **Glycoside** and polysaccharide hydrolase activity of the rumen anaerobic **fungus** Caecomyces communis (Sphaeromonas communis SENSU Orpin) at early and final stages of the developmental cycle
AUTHOR(S): Gerbi, corinne; Bata, Jacqueline; Breton, Andre; Prensier, Gerard
CORPORATE SOURCE: Laboratorie de Microbiologie, Universite Blaise Pascal, Aubiere, 63177, Fr.
SOURCE: Curr. Microbiol. (1996), 32(5), 256-9
CODEN: CUMIDD; ISSN: 0343-8651
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The rumen anaerobic **fungus** Caecomyces communis was grown in a fermentor in Lowe medium. We studied four polysaccharide hydrolases and three **glycoside** hydrolases at early and final stages. We found a difference in cell assocn. for these enzymes depending on the developmental stage. The endocellulase and .beta.-D-fucosidase were early synthesized, and their activities decreased at the end of the developmental cycle. On the contrary, the .beta.-D-glucosidase,

.beta.-D-xylosidase and xylanase activities increased during the cycle. The avicelase and the CM-cellulase activities linked with thalli increased, whereas the extracellular activities of these enzymes decreased.

L7 ANSWER 15 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:158482 CAPLUS
DOCUMENT NUMBER: 124:226087
TITLE: Secretion of Trichoderma reesei .beta.-glucosidase by Saccharomyces cerevisiae
AUTHOR(S): Cummings, C.; Fowler, T.
CORPORATE SOURCE: Genencor Intl., South San Francisco, CA, 94080, USA
SOURCE: Curr. Genet. (1996), 29(3), 227-33
CODEN: CUGED5; ISSN: 0172-8083
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An intronless form the bgl1 gene encoding an extracellular .beta.-glucosidase from Trichoderma reesei was expressed in the **yeast** Saccharomyces cerevisiae under the control of the **yeast** GAL1 promoter. Transformation of a **yeast** strain with this vector resulted in transformants that produce and secrete active .beta.-glucosidase into the growth medium. Addnl., active recombinant .beta.-glucosidase protein was shown to be localized predominantly in the periplasmic space by using a p-nitrophenyl .beta.-D-**glycoside** hydrolysis assay against fractionated **yeast** cells. The apparent size of the recombinant enzyme was 10-15 kDa larger than that of the native form. Treatment of the recombinant .beta.-glucosidase with endoglycosidase-H indicated the apparent increase in size was due to N-linked glycosylation.

L7 ANSWER 16 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:125245 CAPLUS
DOCUMENT NUMBER: 124:219347
TITLE: **Bacterial** enzymes used for colon-specific drug delivery are decreased in active Crohn's disease
AUTHOR(S): Carrette, O.; Favier, C.; Mizon, C.; Neut, C.; Cortot, A.; Colombel, J. F.; Mizon, J.
CORPORATE SOURCE: Laboratoire de Biochimie and Laboratoire de Bacteriologie, Faculte de Pharmacie, Lille, 59006, Fr.
SOURCE: Dig. Dis. Sci. (1995), 40(12), 2641-6
CODEN: DDSCDJ; ISSN: 0163-2116
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Enzymes produced by colonic microflora have been proposed for triggering local delivery of anti-inflammatory azo-bond drugs and prodrugs to the colon. This approach could be advantageous in steroid treatment of inflammatory bowel diseases, thus sparing steroids' side effects. We recently demonstrated that the metabolic activity of digestive flora, assessed on the activity of fecal glycosidases, was decreased in patients with active Crohn's disease. In the present study, the azoreductase activity in feces of 14 patients with active Crohn's disease was decreased (11.39 .+-. 7.93 mU/g F) as compared with 12 healthy subjects (51.13 .+-. 21.39 mU/g F). .beta.-D-Glucosidase and .beta.-D-glucuronidase activities in fecal homogenates incubated under anaerobic conditions were also decreased in patients. These data bring into question the therapeutic usefulness for those patients of azo-bond drugs and **glycoside** prodrugs. They could explain the therapeutic failure of some of those drugs in active ileocolic and colic Crohn's disease.

L7 ANSWER 17 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:317639 CAPLUS
DOCUMENT NUMBER: 122:104442
TITLE: Enzymic hydrolysis of monoterpene glycosides of passion fruit and mango with a .beta.-glucosidase from **yeast**
AUTHOR(S): Drider, D.; Janbon, G.; Chemardin, P.; Arnaud, A.; Glazy, P.
CORPORATE SOURCE: ENSAM, INRA, Montpellier, 34060, Fr.
SOURCE: Bioresour. Technol. (1994), 49(3), 243-6
CODEN: BIRTEB; ISSN: 0960-8524
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Monoterpene glycosides extd. from passion fruit and mango were subjected to acid hydrolysis, with a phosphoric acid (H3PO4) soln., and enzymic hydrolysis using the exocellular .beta.-glucosidase of Candida cacaoi. The enzyme was used free and in an immobilized form covalently bonded to sodium alginate beads. Following the extn. of free and volatile compds. in the fruit juices by hydrodistn., the bonded terpenols were hydrolyzed

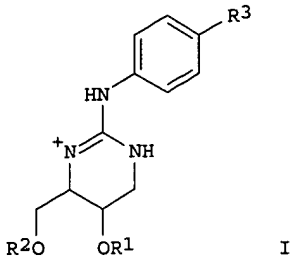
and the free terpenols were recovered by hydrodistn. The .beta.-glucosidase enzyme hydrolysis was shown to be an effective process. Immobilized enzyme liberated less terpenols than did free enzyme.

L7 ANSWER 18 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:260606 CAPLUS
DOCUMENT NUMBER: 122:27356
TITLE: Characterization of .beta.-glucosidase activity in yeasts of enological origin
AUTHOR(S): Rosi, Iolanda; Vinella, M.; Domizio, P.
CORPORATE SOURCE: Dipartimento di Biologia, Universita della Basilicata, Potenza, Italy
SOURCE: J. Appl. Bacteriol. (1994), 77(5), 519-27
CODEN: JABAA4; ISSN: 0021-8847
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Three hundred and seventeen strains representing 20 species of yeasts were screened for the presence of .beta.-glucosidase activity. All of the strains of the species Debaryomyces castellii, D. hansenii, D. polymorphus, Kloeckera apiculata and Hansenula anomala showed .beta.-glucosidase activity, but only one of 153 strains of Saccharomyces cerevisiae. The other species behaved differently, depending upon the strain. Strains that hydrolyzed arbutin were checked to localize the .beta.-glucosidase activity. A strain of D. hansenii exhibited the highest exocellular activity and some wall-bound and intracellular activity. .beta.-Glucosidase synthesis by this **yeast** was enhanced by aerobic conditions of growth, was repressed by high glucose concn. (9%) and occurred during exponential growth. The optimum conditions for enzymic prepns. of D. hansenii were between pH 4.0 and 5.0 and 40.degree.C. A high concn. of ethanol and glucose did not reduce the enzymatic activity. Enzymic prepns. of D. hansenii released monoterpenols and other alcs. from a grape **glycoside** ext.

L7 ANSWER 19 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:124291 CAPLUS
DOCUMENT NUMBER: 122:285260
TITLE: Purification and characterization of the endocellular .beta.-glucosidase of a new strain of Candida entomophila isolated from fermenting agave (Agave sp.) juice
AUTHOR(S): Gueguen, Yannick; Chemardin, Patrick; Arnaud, Alain; Galzy, Pierre
CORPORATE SOURCE: Ecole Nationale Superieure Agronomique, Montpellier, 34060, Fr.
SOURCE: Biotechnol. Appl. Biochem. (1994), 20(2), 185-98
CODEN: BABIEC; ISSN: 0885-4513
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A **yeast** strain isolated in the lab. from fermenting agave (Agave sp.) juice was studied and classified as Candida entomophila. The .beta.-glucosidase of this **yeast** was purified by ion-exchange chromatog. and gel filtration. Its mol. mass estd. by gel filtration was 400 kDa. The oligomeric structure was detd. following treatment of the purified enzyme with SDS. Its optimum pH was between 5 and 6, and its optimum temp. was 60.degree.. The enzyme was active against sol. glucosides with (1.fwdarw.3)-.beta., (1.fwdarw.4)-.beta. and (1.fwdarw.4)-.alpha. linkage configuration, and it possesses (1.fwdarw.6)-.alpha.-arabinofuranosidase activity. It is competitively inhibited by glucose and by D-gluconic acid lactone. The enzyme was constitutive and a glucosyltransferase activity is obsd. in the presence of ethanol. Since the **glycoside** present in wines and fruit juices represent a potential source of arom. flavor, the possible use of the **yeast** glucosidase for the liberation of the bound aroma is discussed.

L7 ANSWER 20 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:49209 CAPLUS
DOCUMENT NUMBER: 122:314509
TITLE: Cyclic guanidinium ions as analogs of glycosyl cations are competitive and noncompetitive inhibitors of **glycoside** hydrolases
AUTHOR(S): Lehmann, Jochen; Rob, Beatrice
CORPORATE SOURCE: Inst. fuer Organische Chem. Biochem., Universitaet Freiburg, Freiburg, D-79104, Germany
SOURCE: Liebigs Ann. Chem. (1994), (8), 805-9
CODEN: LACHDL; ISSN: 0170-2041
DOCUMENT TYPE: Journal
LANGUAGE: German

GI



I

AB Four cyclic guanidinium compds. I (R1 = H; R2 = H; R1R2 = CHPh; R3 = NO2NH+) were synthesized and found to be competitive and noncompetitive inhibitors of .beta.-D-galactosidase (E. coli), .alpha.-D-glucosidase (**yeast**) and .beta.-D-glucosidase (emulsin). The compds. were ineffective against .alpha.-D-mannosidase from jack beans. For the effect of compds. I, resembling hypothetical glucosyl and galactosyl cations, a flattened conformation as well as a permanent pos. charge is made responsible.

L7 ANSWER 21 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1994:481454 CAPLUS
DOCUMENT NUMBER: 121:81454
TITLE: Role of enzymes in the use of the flavor potential from grape glycosides in winemaking
AUTHOR(S): Gunata, Z.; Dugelay, I.; Sapis, J. C.; Baumes, R.; Bayonove, C.
CORPORATE SOURCE: Lab. des Aromes et Subst. Nat., INRA-IPV, Montpellier, 34060/01, Fr.
SOURCE: Prog. Flavour Precursor Stud. Proc. Int. Conf. (1993), Meeting Date 1992, 219-34. Editor(s): Schreier, Peter; Winterhalter, Peter. Allured: Carol Stream, Ill.
CODEN: 59YYAE
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Relatively high levels of glycosidic conjugates of monoterpenes and C13 norisoprenoids in grape make up an important reserve of flavor due to the sensory properties of aglycons. Glycosidases of grape and enol. **yeast** (S. cerevisiae) have only limited effects in releasing volatile compds. from glycosides during winemaking because of their relatively low activities. On the contrary exogenous **fungal** glycosidases appear to offer interesting challenges for technol. application. The use of enzyme prepns. from A. niger with appropriate glycosidases during dry wine prepn. from arom. and non-arom. grape varieties resulted in a considerable release of flavor compds. such as geraniol, nerol, 3-hydroxy-.beta.-damascone, 3-oxo-.alpha.-ionol and vomifoliol from glycosidic precursors. Such hydrolytic enzyme prepns. used in winemaking for the enhancement of wine flavor should not contain side activities inducing off-flavors.

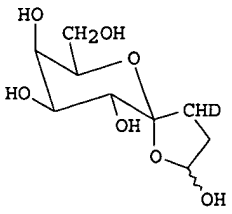
L7 ANSWER 22 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:669504 CAPLUS
DOCUMENT NUMBER: 119:269504
TITLE: Enhancement of wine aroma by using enzymes
AUTHOR(S): Bayonove, C.; Gunata, Y. Z.; Sapis, J. C.; Baumes, R. L.; Dugelay, I.; Grassin, C.
CORPORATE SOURCE: IPV Lab. Aromes, INRA, Montpellier, Fr.
SOURCE: Vignevini (1993), 20(9), 33-6
CODEN: VIGNDL; ISSN: 0390-0479
DOCUMENT TYPE: Journal
LANGUAGE: Italian
AB **Fungal** enzymes (.beta.-glucosidase, .alpha.-arabinosidase, .alpha.-rhamnosidase, apiosidase) were added during vinification of red and white wines to enhance aroma by hydrolysis of terpene glycosides. The level of hydrolysis varied considerably depending on the grape cultivar, e.g. >80% in Sauvignon but .apprx.46% in Muscat Ottonel. Addn. of the enzymes to the must intensified the aroma in organoleptic evaluations of the wine.

L7 ANSWER 23 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:607677 CAPLUS

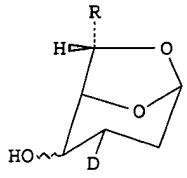
DOCUMENT NUMBER: 117:207677
TITLE: Purification and characterization of an extracellular .beta.-glucosidase from the anaerobic **fungus** Piromyces sp. strain E2
AUTHOR(S): Teunissen, Marcel J.; Lahaye, Danielle H. T. P.; In't Veld, Jos H. J.; Vogels, Godfried D.
CORPORATE SOURCE: Fac. Sci., Univ. Nijmegen, Nijmegen, 6525 ED, Neth.
SOURCE: Arch. Microbiol. (1992), 158(4), 276-81
CODEN: AMICCW; ISSN: 0302-8933
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An extracellular .beta.-glucosidase (EC 3.2.2.21) from the anaerobic **fungus** Piromyces sp. strain E2 was purified. The enzyme is a monomer with a mol. mass of 45 kDa and a pI of 4.15. The enzyme readily hydrolyzes p-nitrophenyl-.beta.-D-**glycoside**, p-nitrophenyl-.beta.-D-fucoside, cellobiose, cellotriose, cellotetraose and cellopentaose but is not active towards Avicel, CM-cellulose, xylan, p-nitrophenyl-.beta.-D-galactoside and p-nitrophenyl-.beta.-D-xyloside. To cleave p-nitrophenyl-.beta.-D-glucoside the max. activity is reached at pH 6.0 and 55.degree., and the enzyme is stable up to 72 h at 40.degree.. Activity is inhibited by D-glucurono-.delta.-lactone, cellobiose, sodium dodecyl sulfate, Hg2+ and Cu2+ cations. With p-nitrophenyl-.beta.-D-**glycoside**, p-nitrophenyl-.beta.-D-fucoside, and cellobiose as enzyme substrates, the Km and Vmax values are 1.5 mM and 25.5 IU.cntdot.mg-1, 1.1 mM and 133 IU.cntdot.mg-1, and 0.05 mM and 55.6 IU.cntdot.mg-1, resp.

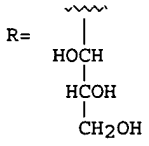
L7 ANSWER 24 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:59760 CAPLUS
DOCUMENT NUMBER: 116:59760
TITLE: Synthesis of 4,8-anhydro-2,3-dideoxy-D-galacto- and -D-gluco-non-3-enose dimethyl acetal and their use as new probes for determining by 1H NMR spectroscopy the steric course of protonation by **glycoside** hydrolases
AUTHOR(S): Fritz, Hans; Lehmann, Jochen; Schmidt-Schuchardt, Markus; Weiser, Wolfgang
CORPORATE SOURCE: Inst. Org. Chem. Biochem., Univ. Freiburg, Freiburg/Br., D-7800, Germany
SOURCE: Carbohydr. Res. (1991), 218, 129-41
CODEN: CRBRAT; ISSN: 0008-6215
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



16



20



AB The title nonosulose derivs. 2 (D-galacto) and 4 (D-gluco) were prepd. by multistep syntheses. Addn. of water to the enolic double bonds of both compds. was catalyzed only by the corresponding enzymes .beta.-D-galactosidase from Escherichia coli, .alpha.-D-galactosidase from green coffee beans, and .beta.-D-glucosidase from sweet almonds, .alpha.-D-glucosidase from **yeast**. The enzymic hydration of 2, performed in D2O to analyze the steric course of the addn., gave 2,3-dideoxy-.alpha.-D-galacto-(3-3H)-nonos-4-ulose di-Me acetal, which when hydrolyzed gave an equil. mixt. of the spiranes 16 as the main products (85%). Borohydride redn. of the product of enzymic hydration gave a separable mixt. of the two epimers, convertible in acidic methanol for 8 h at 62.degree. into anhydro sugar 20. The rigid, bicyclic ring-systems allow facile assignment of the configuration at the monodeuterated C-3 as (S), thereby allowing detn. of the steric course of the initial, enzyme-catalyzed step, the deuteration of the enolic double bond in the substrates used.

L7 ANSWER 25 OF 51 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1991:654231 CAPLUS
DOCUMENT NUMBER: 115:254231
TITLE: Generation of oxidation artifacts during the hydrolysis of norisoprenoid glycosides by **fungal** enzyme preparations
AUTHOR(S): Sefton, Mark A.; Williams, Patrick J.
CORPORATE SOURCE: Aust. Wine Res. Inst., Glen Osmond, 5064, Australia
SOURCE: J. Agric. Food Chem. (1991), 39(11), 1994-7
CODEN: JAFCAU; ISSN: 0021-8561
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The glycosidic fraction of a Chardonnay grape juice was hydrolyzed with Rohapect C, Rohapect D5L, and Novoferm 12, and also with almond emulsin. The concns. of 9 of the aglycons, all C13 norisoprenoids, varied according to the conditions of the hydrolysis. Concns. of 3-hydroxy-.beta.-damascone, megastigm-5-en-7-yne-3,9-diol, 3-hydroxy-.beta.-ionone, megastigm-5-ene-3,9-diol, and 3-hydroxy-5,6-epoxymegastigm-7-en-9-one decreased significantly when the glycosidic fraction was treated with increasing levels of Rohapect C. Loss of these 3-hydroxymegastigmanes was accompanied by the formation of 3-oxo-.alpha.-damascone, 3-oxo-.beta.-damascone, and 9-hydroxymegastigma-4,6,7-trien-3-one and an increase in dehydrovomifoliol. Pure samples of 3-hydroxy-.beta.-damascone and its .beta.-D-glucopyranoside were partially oxidized by Rohapect C to the corresponding oxodamascones. Similar oxidative artifacts were obsd. when the Chardonnay glycosidic fraction was treated with Rohapect D5L and Novoferm 12. No oxidn. was obsd. with almond emulsin.

L7 ANSWER 26 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:407317 CAPLUS
DOCUMENT NUMBER: 115:7317
TITLE: Hydrolysis of soybean isoflavone glycosides by .beta.-glycosidases of bifidobacteria and lactic acid **bacteria**
AUTHOR(S): Matsuyama, Jun; Setoguchi, Tatsuya; Arai, Chiaki; Kiyosawa, Isao
CORPORATE SOURCE: Fac. Agric., Tamagawa Univ., Machida, 194, Japan
SOURCE: Tamagawa Daigaku Nogakubu Kenkyu Hokoku (1990), (30), 33-42
CODEN: TDNHAC; ISSN: 0082-156X
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB In a survey of 5 strains of Bifidobacterium and 4 lactic acid **bacteria**, highest .beta.-glucosidase was found in Streptococcus thermophilus, and greatest .beta.-galactosidase was present in B. adolescentis. Daidzin and genistin in exts. of defatted soybean flour were hydrolyzed to their resp. aglycons (daidzein and genistein) by the bifidobacteria, S. thermophilus, and Lactobacillus acidophilus.

L7 ANSWER 27 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:118287 CAPLUS
DOCUMENT NUMBER: 114:118287
TITLE: Levels of activity of enzymes involved in anaerobic utilization of sugars by six **yeast** species: observations towards understanding the Kluyver effect
AUTHOR(S): Sims, A. P.; Barnett, J. A.
CORPORATE SOURCE: Sch. Biol. Sci., Univ. East Anglia, Norwich, NR4 7TJ, UK
SOURCE: FEMS Microbiol. Lett. (1991), 77(2-3), 295-8
CODEN: FMLED7; ISSN: 0378-1097
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The activities of pyruvate decarboxylase, alc. dehydrogenase, and certain glycosidases were measured for 6 sp. of **yeast**. Five of these yeasts could utilize 1 or more disaccharides aerobically, but not anaerobically, although all could use D-glucose anaerobically. I.e., each of the 5 showed the Kluyver effect; but the 6th **yeast**, Saccharomyces cerevisiae, did not do so. When grown on a **glycoside** with which it gave the Kluyver effect, each **yeast** had much less pyruvate decarboxylase activity than when grown on D-glucose or another **glycoside**. There was no consistent corresponding lowering of activity of either alc. dehydrogenase, or of the appropriate glycosidase. Hence, pyruvate decarboxylase may have a role in producing the Kluyver effect.

L7 ANSWER 28 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:78813 CAPLUS
DOCUMENT NUMBER: 114:78813
TITLE: Glycosidase activities in sound and rotten grapes in

relation to hydrolysis of grape monoterpenyl glycosides
AUTHOR(S): Gunata, Y. Z.; Biron, C.; Sapis, J. C.; Bayonove, C.
CORPORATE SOURCE: Inst. Prod. Vigne, INRA, Montpellier, F 34060, Fr.
SOURCE: Vitis (1989), 28(4), 191-7
CODEN: VITIAY; ISSN: 0042-7500
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 114:78813
AB .beta.-D-Glucopyranosidase, .alpha.-L-arabinofuranosidase, and .alpha.-L-rhamnopyranosidase activities were studied in grapes, both during maturation and in sound and rotten mature fruits. Enzymic activities increased during maturation. At maturity, in sound grapes, .beta.-D-glucopyranosidase and .alpha.-L-arabinofuranosidase activities were the highest ones. Berry infection by **fungi** results in a decrease in .beta.-glucosidase activity, while the other glycosidase activities increase. The effect of an enzymic ext. from a culture of Botrytis cinerea towards synthetic terpenyl glycosides showed that hydrolysis was strong for .beta.-terpenyl rutinosides and weak for .beta.-terpenyl 6-O-.alpha.-L-arabinofuranosyl-.beta.-D-glucopyranosides.

L7 ANSWER 29 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:626835 CAPLUS
DOCUMENT NUMBER: 113:226835
TITLE: Purification and characterization of an aspecific **glycoside** hydrolase from the anaerobic ruminal **fungus** Neocallimastix frontalis
AUTHOR(S): Herbraud, M.; Fevre, M.
CORPORATE SOURCE: Lab. Biol. Cell. Fongique, Univ. Lyon 1, Villeurbanne, 69622, Fr.
SOURCE: Appl. Environ. Microbiol. (1990), 56(10), 3164-9
CODEN: AEMIDF; ISSN: 0099-2240
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A .beta.-glucosidase characterized by .beta.-fucosidase (EC 3.2.1.38) and .beta.-glucosidase (EC 3.2.1.21) activities was purified from the culture medium of N. frontalis grown on 0.5% Avicel. The enzyme had a mol. wt. of 120 kilodaltons and a pI of 3.85. Optimal activity against p-nitrophenyl-.beta.-D-fucoside and p-nitrophenyl-.beta.-D-glucoside occurred at pH 6.0 and 50.degree.. The .beta.-fucosidase and .beta.-glucosidase activities were stable at pH 6.0-7.8 and up to 40.degree.. They were both inhibited by gluconolactone, SDS, p-chloromercuribenzoate, and Hg2+. The enzyme had Km values of 0.26 mg/mL for p-nitrophenyl-.beta.-D-fucoside and 0.08 mg/mL for p-nitrophenyl-.beta.-D-glucoside. The purified protein also had low .beta.-galactosidase activity.

L7 ANSWER 30 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:512229 CAPLUS
DOCUMENT NUMBER: 113:112229
TITLE: Effect of Methanobrevibacter smithii on xylanolytic activity of anaerobic ruminal **fungi**
AUTHOR(S): Joblin, K. N.; Naylor, G. E.; Williams, A. G.
CORPORATE SOURCE: Biotechnol. Div., DSIR, Palmerston North, N. Z.
SOURCE: Appl. Environ. Microbiol. (1990), 56(8), 2287-95
CODEN: AEMIDF; ISSN: 0099-2240
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Three different ruminal anaerobic **fungi**, Neocallimastix frontalis PNK2, Sphaeromonas communis B7, and Piromonas communis B19, were grown axenically or in coculture with Methanobrevibacter smithii on xylan. N. frontalis and S. communis in monoculture and coculture accumulated xylobiose, xylose, and arabinose in the growth medium; arabinose was not metabolized, but xylobiose and xylose were subsequently used. The transient accumulation of xylose was much less evident in cocultures. Both the rate and extent of xylan utilization were increased by coculturing, and metabolite profiles became acetogenic as a result of interspecies H2 transfer; more acetate and less lactate were formed, while formate and H2 did not accumulate. For each of the 3 **fungi**, there were marked increases in the sp. activities of extracellular xylanase (.ltoreq.5-fold), .alpha.-L-arabinofuranosidase (.ltoreq.5-fold), and .beta.-D-xylosidase (.ltoreq.7-fold) upon coculturing. The stimulation of **fungal** enzymes from coculturing with M. smithii was independent of the growth substrate, and the magnitude of the stimulation varied according to the enzymes and the incubation time. For an N. frontalis-M. smithii coculture, the pos. stimulation was maintained during an extended (18-day) incubation period, and this affected not only hemicellulolytic enzymes but also polysaccharidase and **glycoside**

hydrolyase enzymes that were not involved in xylan breakdown. The specific activity of cell-bound endopeptidase was not increased under the coculture conditions used in this study. The higher enzyme activities in cocultures are discussed in relation to catabolite repression.

L7 ANSWER 31 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:33086 CAPLUS
DOCUMENT NUMBER: 112:33086
TITLE: Factors affecting the formation of polysaccharide depolymerase and **glycoside** hydrolyase enzymes by Butyrivibrio fibrisolvens NCDO 2249
AUTHOR(S): Williams, A. G.; Withers, Susan E.
CORPORATE SOURCE: Hannah Res. Inst., Ayr, KA6 5HL, UK
SOURCE: J. Appl. Bacteriol. (1989), 67(3), 299-308
CODEN: JABAA4; ISSN: 0021-8847
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Specific activities of hemicellulose-degrading polysaccharide depolymerase and **glycoside** hydrolase enzymes were measured in batch and continuous cultures of B. fibrisolvens NCDO 2249 grown on cellobiose or a hemicellulosic carbohydrate. Enzyme activities were influenced by the growth substrate and by the rate and stage of growth of the **microorganism**. In cellobiose batch cultures specific activities were max. as the growth rate declined and in the initial stages of the stationary phase. The growth substrate did not affect the range of **glycoside** hydrolases formed, although specific activities were substrate-dependent, with activity increases (.ltoreq.200-fold) occurring in enzymes essential for effective substrate utilization. Appreciable xylanase activity was present only in xylan-growth cultures. The substrate effects were also evident in chemostat cultures. The activity response of the 9 enzymes monitored to growth rate changes differed in that while the activity of some enzymes, including xylanase, declined at high diln. rates the activities of others were not growth rate-dependent and were maintained over the range of diln. rates examd. Exocellular activities were detected only in spent media from cultures grown with a polymeric (hemicellulosic) carbohydrate.

L7 ANSWER 32 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:210978 CAPLUS
DOCUMENT NUMBER: 110:210978
TITLE: **Bacterial** manufacture of glycosides
INVENTOR(S): Kondo, Ryuichiro; Imamura, Hiroyuki
PATENT ASSIGNEE(S): Oji Paper Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63214191	A2	19880906	JP 1987-47448	19870304

AB Glycosides are manufd. by treating phenolic compds. or their derivs. and .beta.-linkage-contg. sugar donors with **bacteria** or .beta.-glucosidase. Thus, Tyromyces palustris FES 0507 was cultured in a medium contg. cellobiose, minerals, and vitamins at 25.degree. for 7 days, then cultured in the same medium addnl. contg. vanillyl alc. (I) at 25.degree. to produce vanillyl-.beta.-D-glucoside with the prodn. reaching 8.6% of I on the 8th day.

L7 ANSWER 33 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:4324 CAPLUS
DOCUMENT NUMBER: 110:4324
TITLE: Hydrolysis of flavonoids by human intestinal **bacteria**
AUTHOR(S): Bokkenheuser, Victor D.; Winter, Jeanette
CORPORATE SOURCE: Dep. Pathol., St. Luke's-Roosevelt Hosp. Cent., New York, NY, 10025, USA
SOURCE: Prog. Clin. Biol. Res. (1988), 280(Plant Flavonoids Biol. Med. 2: Biochem., Cell., Med. Prop.), 143-5
CODEN: PCBRD2; ISSN: 0361-7742
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Some Bacteroides strains were isolated from human feces. Bacteroides distasonis #1 elaborated a .beta.-glucosidase which hydrolyzed rutin to quercetin. Bacteroides diastasonis #2 synthesized a .beta.-galactosidase and a .alpha.-rhamnosidase which converted robinin to kaempferol by

hydrolyzing a sugar flavonoid bond and rutin to 3-glucosyl-quercetin by hydrolyzing a sugar-sugar bond. It might be added that Bacteroides loeschii, recovered from the blood of a hospital patient hydrolyzed quercitrin to quercetin, thus elaborating an .alpha.-rhamnosidase. The latter enzymes did not hydrolyze rutin indicating that rhamnose-glucose bonds and rhamnose-flavonoid bonds require different enzymes. Enzyme specificity manifested itself in one more way: the B. diastasonis .alpha.-rhamnosidase hydrolyzed the flavonoid-rhamnose bond at C7 (robinin) but not at C3 (quercetin). .beta.-Glucosidase was extractable from B. diastasonis following ultrasonication of the culture. The enzyme hydrolyzed p-nitrophenol-**glycoside** in a linear fashion and exhibited a specific activity of 1 .mu.mol/10 mg protein/10 min. Rutin was also hydrolyzed by mixed oral flora. The .beta.-glucosidase was synthesized by obligate anaerobic organisms: a Bifidobacterium species, a Clostridium, and an unidentified organism. Moreover, glycosidase was also elaborated by several obligate anaerobes recovered from patients with bacteremia. Apparently, enzymes capable of hydrolyzing flavonoid glycosides are synthesized by a variety of obligate anaerobic species from the mouth, the gut, and from organisms causing septicemia in man.

L7 ANSWER 34 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:471964 CAPLUS
DOCUMENT NUMBER: 109:71964
TITLE: Role of the **yeast** Saccharomyces cerevisiae in the enzymic hydrolysis of terpenic heterosides of grape juice
AUTHOR(S): Dubourdieu, Denis; Darriet, Philippe; Ollivier, Christophe; Boidron, Jean Noel; Ribereau-Gayon, Pascal
CORPORATE SOURCE: Inst. Oenol., Univ. Bordeaux-II, Talence, 33405, Fr.
SOURCE: C. R. Acad. Sci., Ser. 3 (1988), 306(15), 489-93
CODEN: CRASEV; ISSN: 0764-4469
DOCUMENT TYPE: Journal
LANGUAGE: French
AB Free terpenes were formed in musts being fermented by S. cerevisiae that also formed .beta.-glucosidases. Terpene formation was higher with a strain that released .beta.-glucosidase earlier. Resting **yeast** also released terpenes from terpene glycosides.

L7 ANSWER 35 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:450611 CAPLUS
DOCUMENT NUMBER: 109:50611
TITLE: Characterization of **glycoside** and polysaccharide hydrolases secreted by the rumen anaerobic **fungi** Neocallimastix frontalis, Sphaeromonas communis and Piromonas communis
AUTHOR(S): Hebraud, Michel; Fevre, Michel
CORPORATE SOURCE: Lab. Differ. Fongique, Univ. Lyon, Villeurbanne, 69622, Fr.
SOURCE: J. Gen. Microbiol. (1988), 134(5), 1123-9
CODEN: JGMIAN; ISSN: 0022-1287
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The rumen anaerobic **fungi** N. frontalis, S. communis, and P. communis were grown in the presence of cellulosic substrate (sisal fibers) and the properties of the glycosidases and polysaccharide-degrading enzymes produced by the organisms were studied. .beta.-D-Glucosidase (EC 3.2.1.21), .beta.-D-fucosidase (EC 3.2.1.38), .beta.-D-galactosidase (EC 3.2.1.23), .beta.-1,3-glucanase (EC 3.2.1.6), .beta.-1,4-glucanase (EC 3.2.1.4), and .beta.-xylanase (EC 3.2.1.8) had pH optima of 6.0 and temp. optima under the conditions of the assay of 50-55.degree., whereas for .beta.-xylosidase (EC 3.2.1.37) the optima were 6.5 and 39.degree. resp. The apparent Km values of individual enzymes secreted by the 3 **fungi** were similar. The results show that S. communis, P. communis, and N. frontalis produce the same range of enzymes, with similar properties, able to degrade cellulose and hemicellulose.

L7 ANSWER 36 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1987:614323 CAPLUS
DOCUMENT NUMBER: 107:214323
TITLE: Ultrastructural localization of glucoside residues on tissue sections by applying the enzyme-gold approach
AUTHOR(S): Bendayan, Moise; Benhamou, Nicole
CORPORATE SOURCE: Fac. Med., Univ. Montreal, Montreal, PQ, H3C 3J7, Can.
SOURCE: J. Histochem. Cytochem. (1987), 35(10), 1149-55
CODEN: JHCYAS; ISSN: 0022-1554
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The title approach was applied to animal and plant tissues. A

.beta.-glucosidase-Au complex was prepd. and used on thin tissue sections to reveal the corresponding substrate mols. by electron microscopy. Conditions for prepn. of the complex, as well as for its application, were detd. Once applied on thin tissue sections, the glucosidase-Au complex yielded labeling over the rough endoplasmic reticulum, mainly on the ribosomal side of the membranes, and over the dense chromatin in the nucleus. Mitochondria, Golgi app., and secretory granules in liver and pancreatic cells were free of Au particles. In plant cells, the labeling pattern was similar. In addn., the stroma regions of chloroplasts were densely labeled. In the extracellular space, labeling was found over the basal laminase of cells in animal tissues and over the fibrillar wall material bordering the intercellular space in plant tissues. **Fungal** cell cytoplasm was also labeled, as well as the membrane delineating mycoplasma-like organisms. Control conditions confirmed these labelings, demonstrating the possibility of revealing glucoside residues on tissue sections with high resoln. and specificity.

L7 ANSWER 37 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1987:436307 CAPLUS
DOCUMENT NUMBER: 107:36307
TITLE: **Glycoside** hydrolase enzymes present in the zoospore and vegetative growth stages of the rumen **fungi** Neocallimastix patriciarum, Piromonas communis, and an unidentified isolate, grown on a range of carbohydrates
AUTHOR(S): Williams, Alan G.; Orpin, Colin G.
CORPORATE SOURCE: Hannah Res. Inst., Ayr, UK
SOURCE: Can. J. Microbiol. (1987), 33(5), 427-34
CODEN: CJMIAZ; ISSN: 0008-4166
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The rumen **fungi** N. patriciarum, P. communis, and a morphol. distinct but unidentified isolate were cultivated on the polysaccharides starch, cellulose, xylan, and their principal component monosaccharides and disaccharides, and the range and specific activities of the **glycoside** hydrolases formed were monitored using glucooligosaccharide and p-nitrophenyl **glycoside** substrates. A wide range of enzyme activities was detected in prepns. from vegetative growth and zoospores of all 3 isolates. Enzyme activity was also present in the culture medium. The specific activities were affected by the carbohydrate source available in the growth medium, although the more active hydrolases involved in the degrdn. of plant structural and storage polysaccharides were formed on all 7 carbohydrate sources evaluated. Enzyme activities were increased in the zoospore, vegetative, and extracellular prepns. after growth on the appropriate structurally related disaccharide or polysaccharide. The hemicellulolytic glycosidases (.alpha.-L-arabinofuranosidase, .beta.-D-xylosidase) were most active after growth on xylan, whereas .alpha.-/.beta.-glucosidase activity was increased with the corresponding glucan as growth substrate. However, whereas wide-ranging .beta.-glucosidase activity was detected following growth on maltose or starch, the .alpha.-glucosidase activities of P. communis were lower or undetectable in vegetative prepns. grown on glucose or the .beta.-glucans cellobiose and cellulose.

L7 ANSWER 38 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1986:586438 CAPLUS
DOCUMENT NUMBER: 105:186438
TITLE: p-Nitrophenyl **glycoside**-hydrolyzing activities in bifidobacteria and characterization of .beta.-D-galactosidase of Bifidobacterium longum 401
AUTHOR(S): Tochikura, Tatsurokuro; Sakai, Kenji; Fujiyoshi, Takako; Tachiki, Takashi; Kumagai, Hidehiko
CORPORATE SOURCE: Fac. Agric., Kyoto Univ., Kyoto, 606, Japan
SOURCE: Agric. Biol. Chem. (1986), 50(9), 2279-86
CODEN: ABCHA6; ISSN: 0002-1369
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Bifidobacteria showed higher hydrolyzing activity toward various p-nitrophenyl glycosides (p-NP glycosides) than some other intestinal **bacteria**. The reactions commonly found in the organisms involved p-NP .beta.-D-galactoside, p-NP .alpha.-D-glucoside, and p-NP .beta.-D-fucoside. Anal. of the enzyme species suggested that the .beta.-D-fucoside-hydrolyzing reaction, which is undetectable in other **bacteria**, was catalyzed by .beta.-D-galactosidase in many bifidobacteria and by .beta.-D-glucosidase in some strains. .beta.-D-Galactosidase, which hydrolyzed p-NP .beta.-D-fucoside (with 12% of its reactivity to p-NP .beta.-D-galactoside), was purified to homogeneity from B. longum 401. The enzyme was distinct from other

bacterial .beta.-D-galactosidases in its higher activity toward lactulose than lactose and the insensitivity of its formation to the C source in the culture medium. Some properties of the .beta.-D-galactosidase are described and compared with those of the lactase from the same organism.

L7 ANSWER 39 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1985:613316 CAPLUS
DOCUMENT NUMBER: 103:213316
TITLE: The production of hemicellulose-degrading enzymes by Bacillus macerans in anaerobic culture
AUTHOR(S): Williams, Alan G.; Withers, Susan E.
CORPORATE SOURCE: Hannah Res. Inst., Ayr, KA6 5HL, UK
SOURCE: Appl. Microbiol. Biotechnol. (1985), 22(5), 318-24
CODEN: AMBIDG
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The cell-assocd. and exocellular hemicellulolytic polysaccharide depolymerase [9054-87-9] and **glycoside** hydrolase [9032-92-2] activity of B. macerans NCDO 1764 was monitored over a range of anaerobic growth conditions in batch and continuous culture. The enzymes were detectable throughout the complete growth cycle in batch culture reaching and maintaining max. levels in the stationary phase. In continuous culture enzyme activity was largely independent of growth rate (D = 0.025-0.1 h-1) although the activity was reduced at higher diln. rates (0.125-0.15 h-1). Although activity was detectable over a wide pH range (pH 5.5-7.5) it was pH dependent, and max. activities of both the cell-assocd. and exocellular enzymes were measured in cultures maintained at pH 6.5-7.0. The principal metabolites formed anaerobically from xylose [58-86-6] by B. macerans in batch and continuous culture were acetic acid [64-19-7], formic acid [64-18-6], and EtOH [64-17-5] which represented 95-99% of the products formed. Smaller amts. of acetone, DL-lactic acid and succinic acid were formed together with traces of butyric acid (<5 nmol/mL) and isovaleric acid (<25 nmol/mL). The proportions of the metabolites produced varied with growth conditions and were influenced by the pH of the culture and the rate and stage of growth of the **microorganism**.

L7 ANSWER 40 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1985:557060 CAPLUS
DOCUMENT NUMBER: 103:157060
TITLE: Formation of polysaccharide depolymerase and **glycoside** hydrolase enzymes by Bacteroides ruminicola subsp. ruminicola grown in batch and continuous culture
AUTHOR(S): Williams, Alan G.; Withers, Susan E.
CORPORATE SOURCE: Hannah Res. Inst., Ayr, KA6 5HL, UK
SOURCE: Curr. Microbiol. (1985), 12(2), 79-84
CODEN: CUMIDD; ISSN: 0343-8651
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The activities of 10 polysaccharide depolymerase and **glycoside** hydrolase enzymes were monitored in B. ruminicola ruminicola throughout the growth cycle and over a range of diln. rates (D) in C-limited continuous (chemostat) culture. The enzymes were principally cell assocd., and the specific activities increased throughout the growth cycle to reach max. levels in the late exponential and stationary growth phases. In chemostat-grown cells, the activities were growth rate dependent, were highest at the lowest value of D examd. (0.025/h), and remained const. over a wide range of growth rates (D = 0.05-0.15/h). The specific activities were lower in cells with a generation time of 3 h (D = 0.225/h). The major metabolites formed from xylose, in batch and continuous cultures, were lactic, acetic, and succinic acids, with traces (.apprx.1-2% of total acid prodn.) of branched and straight-chain C3-C5 volatile fatty acids. The proportions of the metabolites produced varied with the stage and rate of growth.

L7 ANSWER 41 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1985:32032 CAPLUS
DOCUMENT NUMBER: 102:32032
TITLE: Drug glycosides: potential prodrugs for colon-specific drug delivery
AUTHOR(S): Friend, David R.; Chang, George W.
CORPORATE SOURCE: Dep. Nutr. Sci., Univ. California, Berkeley, CA, 94720, USA
SOURCE: J. Med. Chem. (1985), 28(1), 51-7
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal

LANGUAGE: English
AB The 21-yl .beta.-D-glucosides and galactosides of dexamethasone, prednisolone, hydrocortisone, and fludrocortisone and prednisolone-21-yl .beta.-D-cellobioside [92901-27-4] were prepd. by a modified Koenigs-Knorr reaction. The deacetylated **glycoside** prodrugs, along with the p-nitrophenyl derivs. of .beta.-D-glucoside, galactoside, and cellobioside, were subjected to hydrolysis by the contents of the rat stomach, proximal small intestine (PSI), distal small intestine (DSI), and cecum. All the prodrugs were hydrolyzed slowly by PSI and stomach contents, more rapidly by contents of the DSI, and most rapidly by cecal contents. Hydrolysis rates catalyzed by DSI contents decreased in the following order: prednisolone-21-yl .beta.-D-galactoside [92901-24-1] > prednisolone-21-yl .beta.-D-glucoside [88158-44-5] > prednisolone-21-yl .beta.-D-cellobioside > dexamethasone-21-yl .beta.-D-galactoside [92901-23-0] > dexamethasone-21-yl .beta.-D-glucoside [88158-43-4]. Hydrolysis of the prednisolone cellobioside was only 1/2 that of glucoside and 1/4 that of the galactoside. Hydrolysis of all the prodrugs in cecal contents was rapid, with the exceptions of hydrocortisone-21-yl .beta.-D-glucoside [92901-21-8] and fludrocortisone-21-yl .beta.-D-glucoside [92901-22-9], which were hydrolyzed more slowly than the other glucoside prodrugs. Eadie-Hofstee plots for hydrolysis of the glucoside compds. suggested that **bacterial** .beta.-D-glucosidase **[9001-22-3]** activity in the colon may be more heterogeneous in nature than .beta.-D-galactosidase [9031-11-2] activity. The logarithm of the partition coeff. (octanol-buffer) of the cellobioside (-0.56) was considerably lower than that of the other prodrugs, which ranged from 0.11 to 0.84; comparative detns. for the free steroids ranged from 1.54 to 1.73. These relative rates of hydrolysis and relative lipophilicities, along with previously reported animal expts., enable one to est. the site specificity of **glycoside** prodrugs prior to extensive animal studies.

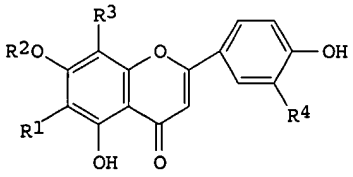
L7 ANSWER 42 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1984:626388 CAPLUS
DOCUMENT NUMBER: 101:226388
TITLE: **Glycoside** hydrolases of rumen **bacteria** and protozoa
AUTHOR(S): Williams, Alan G.; Withers, Susan E.; Coleman, Geoffrey S.
CORPORATE SOURCE: Dep. Anim. Nutr. Prod., Hannah Res. Inst., Ayr, KA6 5HL, UK
SOURCE: Curr. Microbiol. (1984), 10(5), 287-93
CODEN: CUMIDD; ISSN: 0343-8651
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Sixteen strains of rumen **bacteria** and 21 protozoal prepns. were screened for **glycoside** hydrolase and phosphatase activity, using 22 nitrophenyl **glycoside** substrates. The range and level of **bacterial** enzyme activities were species dependent, although the glycosidases assocd. with plant cell wall breakdown were most active in the cellulolytic and hemicellulolytic species. Alk. phosphatase occurred widely in the organisms examd., but was most active in the 2 Bacteroides ruminicola strains. A wide range of enzyme activities also was detected in the holotrich and Entodiniomorphid ciliates isolated from the rumen or cultured in vitro. The glycosidases involved in cellulose and hemicellulose breakdown were detected in all of the protozoa examd., and, with the exception of Entodinium secies, were most active in the Entodiniomorphid protozoa; .alpha.-L-arabinofuranosidase, an essential hemicellulolytic **glycoside** hydrolase, was particularly active in this latter group of ciliates.

L7 ANSWER 43 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1984:468966 CAPLUS
DOCUMENT NUMBER: 101:68966
TITLE: The distribution of polysaccharide-degrading enzymes in the bovine digesta ecosystem
AUTHOR(S): Williams, Alan G.; Strachan, Norman H.
CORPORATE SOURCE: Hannah Res. Inst., Ayr, KA6 5HL, UK
SOURCE: Curr. Microbiol. (1984), 10(4), 215-20
CODEN: CUMIDD; ISSN: 0343-8651
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The location and level of activity of the principal polysaccharidases and **glycoside** hydrolases involved in the degrdn. of plant structural and storage polysaccharides were monitored in microbial populations isolated from liq. and particulate phases of bovine rumen digesta. The 3 principal subpopulations, and their constituent subgroups studied, all contained polysaccharide depolymg. enzymes; however, the specific

activities of the enzymes that degraded the plant cell wall structural polymers were highest within the adherent particle-assocd. populations. Sep. functional groups of organisms could be recognized in the particle-assocd. population by their distinctive enzyme profiles.

L7 ANSWER 44 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1982:611189 CAPLUS
DOCUMENT NUMBER: 97:211189
TITLE: Characterization and quantification of acid phosphatase and **glycoside** hydrolases in rabbit cornea
AUTHOR(S): Schive, Kirsti; Volden, Gunnar
CORPORATE SOURCE: Dep. Ophthalmol., Univ. Tromso, Tromso, N-9012, Norway
SOURCE: Acta Ophthalmol. (1982), 60(4), 590-8
CODEN: ACOPAT; ISSN: 0001-639X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The optimal reaction conditions and kinetic properties of 8 lysosomal hydrolases in rabbit cornea detd. with the use of fluorigenic derivs. of 4-methylumbelliferone are described. The enzymes studied were .alpha.- and .beta.-glucosidase, .alpha.- and .beta.-galactosidase, .alpha.-mannosidase, .beta.-acetylglucosaminidase, .beta.-glucuronidase, and acid phosphatase. Na taurocholate was an essential requirement for .beta.-glucosidase activity. Approx. the same pH optimum values, Km values, and sensitivity to inhibitors were found as by other investigators in other tissues. The reaction conditions described in this report can be used for studying the influence of phys., chem., viral, **bacterial** agents, etc., on the cornea and further for the diagnosis of eventual lysosomal storage diseases.

L7 ANSWER 45 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1981:581552 CAPLUS
DOCUMENT NUMBER: 95:181552
TITLE: Effect of structure of phenolic compounds on the inhibition of the growth of Phytophthora parasitica and the activity of parasitogenic enzymes. V. Flavones, O- and C-glycosides
AUTHOR(S): Ravise, A.; Chopin, J.
CORPORATE SOURCE: Lab. Chim. Biol., Univ. Claude Bernard, Villeurbanne, 69621, Fr.
SOURCE: Phytopathol. Z. (1981), 100(3), 257-69
CODEN: PHYZA3; ISSN: 0031-9481
DOCUMENT TYPE: Journal
LANGUAGE: French
GI



I

AB Apigenin (I; R1 = R2 = R3 = R4 = H) [520-36-5], luteolin (I; R1 = R2 = R3 = H, R4 = OH) [491-70-3], luteolin 7-glucoside (I; R1 = R3 = H, R2 = .beta.-glucopyranosyl, R4 = OH) [5373-11-5], vitexin (I; R1 = R2 = R4 = H, R3 = .beta.-glucopyranosyl) [3681-93-4], isoorientin [I; R1 = .beta.-glucopyranosyl, R2 = R3 = H, R4 = OH(sic)] [4261-42-1], isoswertisin (I; R1 = R4 = H, R2 = Me, R3 = .beta.-D-glucopyranosyl) [6980-40-1], molludistin (I; R1 = R4 = H, R2 = Me, R3 = .alpha.-L-arabinoyranosyl) [66274-25-7], and schaftoside (I; R1 = .beta.-D-glucopyranosyl; R2 = R4 = H; R3 = .alpha.-L-arabinopyranosyl) [51938-32-0] inhibited the mycelial growth and asexual reprodn. of Phytophthora parasitica, Verticillium albo-atrum, and Colletotrichum musae in vitro. The C-glycosyl flavones were more toxic than the corresponding aglycones. The pectic hydrolases endopolymethylgalacturonase, endopolygalacturonase, as well as endopectin transeliminase and .beta.-glucosidase were inhibited by the compds. to various degrees.

L7 ANSWER 46 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1981:188559 CAPLUS

DOCUMENT NUMBER: 94:188559
TITLE: Influence of growth medium on adsorption of Streptococcus mutans, Actinomyces viscosus, and actinomyces naeslundii to saliva-treated hydroxyapatite surfaces
AUTHOR(S): Peros, W. J.; Gibbons, R. J.
CORPORATE SOURCE: Forsyth Dent. Cent., Northeast. Univ., Boston, MA, 02115, USA
SOURCE: Infect. Immun. (1981), 32(1), 111-17
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Influence of the growth medium on the ability of strains of S. mutans, A. viscosus, and A. naeslundii to attach to saliva-treated hydroxylapatite (S-HA) surfaces was studied. Strains were grown in chem. defined medium (CDM); in CDM supplemented with gastric mucin or with filter-sterilized or 60Co-irradiated saliva from human donors of blood types A, B, or O; in trypticase soy broth; and in Todd-Hewitt broth. Adherence of S. mutans H12 to S-HA varied when the streptococci were grown in saliva-supplemented CDM, but the no. of cells which attached was generally within 2-fold of that of CDM-grown cells. Attachment of A. viscosus S2 and LY7 and of A. naeslundii S4 and L13 was similar when grown in CDM or in CDM supplemented with saliva, but it increased for organisms grown in CDM supplemented with gastric mucin. None of the strains studied appeared to destroy the blood group reactivity of the added salivary components, and they attached equally well to HA treated with homologous or heterologous saliva from that present in the medium in which they were grown. The A. viscosus strains adsorbed in 25-40% higher nos. to HA treated with blood type B saliva than with type A saliva, irresp. of the medium used for growth. S. mutans H12 cells displayed .alpha.- and .beta.-glucosidase and .alpha.-galactosidase activity; the Actinomyces strains exhibited these activities plus .beta.-galactosidase. The levels of these **glycoside** hydrolases did not correlate with cell adsorption to S-HA. The apparent weak influence of the growth medium on attachment of S. mutans was studied further. Strains of S. mutans isolated from the saliva of 5 human donors were made resistant to streptomycin, grown in CDM, and then added to new saliva samples from the resp. donors from which they were obtained. The in vitro-grown cells attached to S-HA comparably to S. mutans cells naturally present in the saliva.

L7 ANSWER 47 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1981:78089 CAPLUS
DOCUMENT NUMBER: 94:78089
TITLE: Toxic effects of cycasin, the **glycoside** of cycad plant, upon several biology species
AUTHOR(S): Kobayashi, A.; Tadera, K.; Yagi, F.
CORPORATE SOURCE: Fac. Agric., Kagoshima Univ., Kagoshima, Japan
SOURCE: Nat. Toxins, Proc. Int. Symp. Anim., Plant Microb. Toxins, 6th (1980), Meeting Date 1979, 647-54. Editor(s): Eaker, D.; Waldstroem, T. Pergamon: Oxford, Engl.
CODEN: 44VRAY
DOCUMENT TYPE: Conference
LANGUAGE: English

AB Toxic effects of cycasin [14901-08-7] were examd. in microorganisms, plants, and insects. Cycasin developed generally not only retardation of growth but redn. in the characteristic products of each **microorganism**. The prodn. of kojic acid [501-30-4] by Aspergillus oryzae was accelerated. Spore-formation was specifically inhibited in **fungi**. Germination and growth of various cereal seeds were interfered by cycasin. Respiration of the treated seedlings was low, and necrosis and death occurred. The activity of .alpha.-amylase [9000-90-2] and the content of gibberellins were low. An emergence-mechanism of cycasin-toxicity was proposed; cycasin is hydrolyzed by .beta.-glucosidase, and the liberated aglycone is oxidized by alc. dehydrogenase [9031-72-5] to give the aldehyde-form of the aglycone, which would interfere the formation of gibberellin in the embryo parts and/or the de novo synthesis of .alpha.-amylase. Larvae of cabbage army worm and silk worm melaninized themselves heavily, pupated incompletely and died. As a whole, the respiratory or red-ox system was disturbed by the aglycone of cycasin.

L7 ANSWER 48 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1978:101289 CAPLUS
DOCUMENT NUMBER: 88:101289
TITLE: Occurrence of **glycoside** hydrolases in plant pathogenic and related **bacteria**
AUTHOR(S): Hayward, A. C.

CORPORATE SOURCE: Dep. Microbiol., Univ. Queensland, St. Lucia, Aust.
SOURCE: J. Appl. Bacteriol. (1977), 43(3), 407-11
CODEN: JABAA4; ISSN: 0021-8847
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Tests were conducted on 128 isolates representing 37 species and 6 genera of plant pathogenic and related **bacteria** for .beta.-galactosidase, .alpha.-glucosidase, .beta.-glucosidase, and .beta.-xylosidase, with the corresponding nitrophenyl glycopyranosides as substrates. Agrobacterium tumefaciens, Corynebacterium flaccumfaciens, C. michiganense, Flavobacterium pectinovorum, and Pseudomonas maltophilia showed activity on all 4 substrates. Xanthomonas albilineans and 3 nomenspecies of the X. campestris group had little or no .alpha.-glucosidase activity, but all other tests with Xanthomonas species were pos. None of the fluorescent pseudomonads examd. possessed .beta.-galactosidase, but P. stizolobii, P. andropogonis, and P. rubrisubalbicans among the nonfluorescent pseudomonads showed activity.

L7 ANSWER 49 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1976:402508 CAPLUS
DOCUMENT NUMBER: 85:2508
TITLE: Cyanogenetic glycosides and enzymes: detection and estimation of hydrocyanic acid in several species, distribution of linamarase
AUTHOR(S): Plouvier, Victor
CORPORATE SOURCE: Lab. Chim. Appl. Corps Org., Mus. Hist. Nat., Paris, Fr.
SOURCE: C. R. Hebd. Seances Acad. Sci., Ser. D (1976), 282(8), 723-6
CODEN: CHDDAT
DOCUMENT TYPE: Journal
LANGUAGE: French
AB The presence of a cyanogenic heteroside hydrolyzable by .beta.-glucosidase has been established or confirmed in several plants. The stem leaves of Aster ptarmicoides contained a cyanogenic heteroside but their .beta.-glucosidase was insufficiently active to induce hydrolysis. Linamarase, an enzyme specific for linamaroside and lotaustraloside, was very widely distributed in the Thallophytes, less so in higher plants; its presence in certain species is related to contamination by **bacteria**.

L7 ANSWER 50 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1975:543442 CAPLUS
DOCUMENT NUMBER: 83:143442
TITLE: Rapid method for identifying **bacterial** enzymes
AUTHOR(S): Maddocks, J. L.; Greenan, Mary J.
CORPORATE SOURCE: Welsh Natl. Sch. Med., R. Infirm., Cardiff, Wales
SOURCE: J. Clin. Pathol. (1975), 28(8), 686-7
CODEN: JCPAAK
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A simple and rapid method for detecting **bacterial** enzymes was developed depending on the release of the fluorescent reaction product methylumbelliferone from the nonfluorescent substrate, the appropriate methylumbelliferyl **glycoside**. The substrates used and the corresponding enzymes detected were: 4-methylumbelliferyl-.beta.-D-glucopyranoside, -.beta.-D-galactopyranoside, -.beta.-D-glucuronide, -2-acetamido-2-deoxy-.beta.-D-glucopyranoside, and -.alpha.-D-mannopyranoside for the enzymes .beta.-glucosidase (I) .beta.-galactosidase (II), .beta.-glucuronidase (III), .beta.-acetylglucosaminidase, and .alpha.-mannosidase, resp. The detection of I, II, and III in Escherichia coli and of none of these glycosidases in Pseudomonas aeruginosa showed the applicability of the method.

L7 ANSWER 51 OF 51 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1973:488193 CAPLUS
DOCUMENT NUMBER: 79:88193
TITLE: Effect of the carbohydrate moiety on biological activities of synthetic glycosides of medicagenic acid
AUTHOR(S): Gestetner, B.; Assa, Y.; Rotman, Miriam
CORPORATE SOURCE: Fac. Agric., Hebrew Univ. Jerusalem, Rehovot, Israel
SOURCE: Experientia (1973), 29(5), 529-30
CODEN: EXPEAM
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Synthetic glycosides of medicagenic acid (I) [599-07-5] were

fungistatic and hemolytic to the same extent as natural lucerne saponin, and the biol. properties were not influenced by the carbohydrate moiety of the synthetic glycosides as long as the moiety was composed of 1 or 2 hexoses and did not cause extreme changes in some properties such as soly. The **fungistatic** effect of I was greater and the I hemolytic activity was less than that of the glycosides, due to the lower water soly. of I. In the synthetic compds., the glycosidic bond between the sugar and aglycone was cleaved by incubation with almond .beta.-glucosidase [**9001-22-3**] but not with **yeast** .alpha.-glucosidase [9001-42-7].

09/806,413 Search Strategy/Results

```
     (FILE 'HOME' ENTERED AT 06:35:42 ON 20 MAR 2002)

     INDEX 'ADISALERTS, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 06:38:51 ON
     20 MAR 2002
                SEA PRIMEVEROSIDASE
               ---------
                4   FILE AGRICOLA
                1   FILE ANABSTR
                3   FILE BIOBUSINESS
                7   FILE BIOSIS
                1   FILE BIOTECHABS
                1   FILE BIOTECHDS
                1   FILE BIOTECHNO
                6   FILE CABA
               24   FILE CAPLUS
                2   FILE CONFSCI
               21   FILE DGENE
                1   FILE EMBASE
                1   FILE ESBIOBASE
                7   FILE FROSTI
                5   FILE FSTA
               11   FILE GENBANK
                8   FILE JICST-EPLUS
                1   FILE LIFESCI
                1   FILE MEDLINE
                5   FILE PASCAL
                1   FILE PROMT
               12   FILE SCISEARCH
                6   FILE TOXCENTER
                1   FILE USPATFULL
                2   FILE WPIDS
                2   FILE WPINDEX
L1              QUE PRIMEVEROSIDASE
               ---------

     FILE 'CAPLUS' ENTERED AT 06:39:58 ON 20 MAR 2002
L2           24 S PRIMEVEROSIDASE

     FILE 'REGISTRY' ENTERED AT 06:41:49 ON 20 MAR 2002
L3            1 S PRIMEVEROSIDASE/CN

     FILE 'CAPLUS' ENTERED AT 06:43:29 ON 20 MAR 2002
L4         6434 S L3
L5         1758 S L4 AND (MICROORGANISM OR BACTERIA# OR FUNG? OR YEAST)
L6           65 S L5 AND GLYCOSIDE
L7           51 S L6 NOT PY>1998

=>
```